CROATIA EARTHQUAKE RECOVERY AND PUBLIC HEALTH PREPAREDNESS PROJECT (P173998)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK FOR COMPONENT (2) – PUBLIC HEALTH SURVEILLANCE AND PREPAREDNESS

REPUBLIKA HRVATSKA
Ministarstvo
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LIST OF ABBREVIATIONS & ACRONYMS

ADR	Agreement concerning the International Carriage of Dangerous Goods by Road
ABD	Adriatic River Basin District
As	Arsenic
BMP	Biodiversity Management Plan
C_6H_6	Benzene
CBS	Croatian Bureau of Statistics
Cd	Cadmium
CHMP	Cultural Heritage Management Plan
CIPH	Croatian Institute for Public Health
CO	Carbon Monoxide
COVID-19	Coronavirus Disease 2019
Cr	Chromium
Cu	Copper
DBD	Danube River Basin District
D-RAS	Disaster Resilience Analytics and Solutions
DRG	Diagnosis-Related Group
EIA	Environmental Impact Assessment
ENAA	Ecological Network Impact Assessment
EPEEF	Environmental Protection and Energy Efficiency Fund
EPR	Environmental Pollution Register
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	World Bank Environmental and Social Standards
ESSPROS	European System of integrated Social Protection Statistics
ESSQ	Environmental and Social Screening Questionnaire
FGRM	Feedback and Grievance Redress Mechanism
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GM	Grievance Mechanism
GRADE	Global Rapid post-disaster Damage Estimation
GV	Daily Limit Values
GVA	Gross Value Added
H2S	Hydrogen Sulphide
HCB	Hexachlorobenzene
Hg	Mercury
HINA	Croatian National News Agency
ICU	Intensive Care Unit
ICWMP	Infection Control and Waste Management Plan
IFC	International Finance Corporation
ILO	International Labor Organization
IMR	Institute for Medical Research
IPF	Investment Project Financing
MCS	Mercalli–Cancani–Sieberg
MoESD	Ministry of Economy and Sustainable Development
MoF	Ministry of Finance
MoH	Ministry of Health
MoI	Ministry of the Interior

MoLPSFSP	Ministry of Labour, Pension System, Family and Social Policy
MoPPCSA	Ministry of Physical Planning, Construction and State Assets
MoSE	Ministry of Science and Education
MSDS	Material Safety Data Sheets
Natura 2000	Ecological Network of the Republic of Croatia
NH3	Amonia
Ni	Nickel
NMVOC	Non-methane volatile organic compounds
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NUTS 2	Nomenclature of Territorial Units for Statistics
OHS	Occupational Health and Safety
PAH	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PCB	Polychlorinated Biphenyl
PCDD / PCDF	Dioxins and Furans
PDO	Project Development Objective
PIN	Personal Identification Number
PIU	Project Implementation Unit
PM	Particulate Matter
PPE	Personal Protective Equipment
PSC	Project Steering Committee
RBI	Ruđer Bošković Institute
Se	Selenium
SEP	Stakeholder Engagement Plan
SO2	Sulphur Dioxide
TBq	Terabecquerel
TSP	Total Suspended Particles
UNICEF	United Nations Children's Fund is a United Nations
VHI	Voluntary Health Insurance
VOCs	Volatile Organic Compounds
WB	World Bank
WHO	World Health Organization
Zn	Zinc

EXECUTIVE SUMMARY

The World Bank (WB) is providing support to the Government of Croatia (the Government) in implementing the "Croatia Earthquake Recovery and Public Health Preparedness Project".

On March 22, 2020, the City of Zagreb was struck by the earthquake (magnitude ML5.5), which severely damaged public buildings, hindering the effective delivery of health and education services and directly affecting the economy of the cities, municipalities, counties and the country. The earthquake took place 11 days after the World Health Organization (WHO) declared COVID-19 to be a pandemic, a crisis that has stressed both the health system and public finances, which additional hinders much needed earthquake recovery.

The second devastating earthquake of a magnitude of 6.2 on the Richter scale hit the Sisak-Moslavina County on December 29, 2020. The earthquake was strongly felt in most of Croatia and again in Zagreb, where it caused new progressive damage. Numerous aftershocks were recorded, including a 5.0 magnitude earthquake on January 6, 2021.

The December earthquakes ended an extraordinary year for Croatia, due to compounding effects of a major earthquake in March 2020, COVID-19 pandemic, and revealed that further work is needed around strengthening the institutions required for resilience and response to future shocks.

Given the above, within project "Croatia Earthquake Recovery and Public Health Preparedness Project" World Bank assist The Republic of Croatia with reconstruction efforts in in earthquake affected counties (Zagreb, Krapina-Zagorje, Sisk-Moslavina and Karlovac) and the City of Zagreb, improve institutional capacity for reconstruction, and strengthen national systems for public health preparedness.

The "Earthquake Recovery and Public Health Preparedness Project" consists of following project components:

Component 1: Earthquake Recovery and Reconstruction

- Subcomponent 1.1: Immediate Public Safety Interventions
- Subcomponent 1.2: Rehabilitation and Reconstruction of Health and Education Facilities
- Subcomponent 1.3: Housing Reconstruction Support Program Design

Component 2: Public Health Surveillance and Preparedness

- Subcomponent 2.1: Case management and Surveillance
- Subcomponent 2.2: Public Health Preparedness

Component 3: Project Management

As two distinctively separate project activities will be carried out under the first two components (while the third component is supportive of the entire Project), there will be two implementing bodies (Ministry of Physical Planning, Construction and State Assets) and Ministry of Health, with separate Project Implementation Units (PIUs). Consequently, two separate ESMFs are developed for the component 1 and 2.

This Environmental and Social Management Framework (ESMF) covers Component 2 - Public Health Surveillance and Preparedness.

The Ministry of Physical Planning, Construction and State Assets (MoPPCSA) and Ministry of Health (MoH) allocation of funds from the Loan (US$ 15.00 million) by the World Bank will use for the purpose

of strengthening core public health preparedness and health system capabilities for the .prevention and effective management of future infectious disease outbreaks. Component 2 will support the provision of:

- Medical equipment and supplies;
- National guidelines for surveillance updated for 15 health conditions;
- Sentinel sites for respiratory viruses for quarterly reports;
- Assessment of surveillance system (domestic and international);
- Surveillance sites established for gender-related violence;
- COVID cases reported and investigated per approved protocol (disaggregated by gender) (Percentage);
- Emergency medical service vehicles, isolation units and telemedicine;
- Emergency medicine training;
- Personal protective equipment;
- Repair and rehabilitation of public health laboratories.

Environmental and Social Management Framework (ESMF) document is the environmental and social due diligence instrument made to ensure that the proposed project is implemented in accordance with the World Bank operational guidelines, including WB Environmental, Health and Safety Guidelines (EHSG), World Bank Environmental and Social Standards (ESS) and national legislation related to environmental and social protection, as well as, a mandatory practical tool to be used during design, implementation, and monitoring of the project activities. The ESMF also defines the implementation and institutional responsibilities of various stakeholders involved in the project implementation. The ESMF provides an overview of environmental and social policies, institutional and legal framework of the Croatia and Environmental and Social Standards (ESS) of the WB; presents the institutional and capacity assessment related to the environmental and social management of the Project; and describes the principles, objectives and approach to be followed while assessing the E&S risks of Project activities and designing environmental and social mitigation measures.

Seven out of the ten Environmental and Social Standards (ESSs) of the WBs ESF have been screened as relevant for the overall Project: ESS1 Assessment and Management of Environmental and Social Risks and Impacts, ESS2 Labor and Working Conditions, ESS3 Resource Efficiency and Pollution Prevention and Management, ESS4 Community Health and Safety, ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS8 Cultural Heritage, and ESS10 Stakeholder Engagement and Information Disclosure.

The environmental and social risks for the overall Project are rated as Substantial. The planned interventions related to immediate recovery and rehabilitation of structures, potential demolition of unsafe buildings, and the construction of new buildings carry risks typical for construction works: operational health and safety risks, community health and safety risks, dust and noise emissions, traffic disruption, generation of large quantities of construction waste, exposure of workers and building occupants to hazard materials before and during demolition and rehabilitation activities; unsafe working conditions; and poor occupational health and safety practices. The efforts to curb and minimize effects of the COVID-19 outbreak pose the following risks: generation, management,

storage, and disposal/treatment of medical waste, including infectious waste; risks related to management, storage, and disposal of chemicals; and occupational health and safety risks related to working in highly contagious environments and to availability and use of protective equipment and hygiene materials. To address these risks, separate ESMF for Component 1 and 2 containing set of mitigation measures, are developed.

For project activities under the Component 2, seven out of the ten Environmental and Social Standards (ESSs) of the WBs ESF have been screened as relevant: ESS1, ESS2, ESS3, ESS4, ESS6, ESS8 and ESS10.

The environmental and social risks for the Component 2 are rated as low to moderate.

As a member of the European Union, Republic of Croatia has harmonized its environmental regulations and standards with EU directives. Environmental regulations are generally in line with WB safeguards and policies except regarding ESS3, ESS6 and ESS10.

According to national waste legislation the owner of hazardous waste is not obliged to obtain information on final destination of hazardous waste, his responsibility ceases when waste is handed over to the authorized company (e.g. to company collecting hazardous waste) while according to ESS3 waste owner must obtain documentation on handing over waste to the final destination. In the case where significant risks and adverse impacts on biodiversity have been identified, according to the ESS6 it is necessary to develop and implement a Biodiversity Management Plan. National legislation does not define such obligation. Also, unlike ESS10, national environmental legislation does not define preparation of programme like Stakeholder Engagement Plan (SEP) for specific projects.

For Component 2 difference between national legislation and ESS3 is relevant but this difference is of small scale and within ESMF measure eliminating this difference is defined. As adverse impacts on biodiversity have not been identified difference identified regarding ESS6 is not relevant for overall Project.

In relation to social impacts, the Croatian legislation is in line with WB safeguards and requirements in terms of human health and safety, public consultation or provisions for addressing the relation and impact of the project to neighbouring properties and communities.

Environmental risks under Subcomponent 2.1 are mainly related to activities of repair and rehabilitation of public health laboratories. These risks are typical for construction works: dust and noise emissions, accidental spillage of machine oil, lubricants, traffic disruption, generation of large quantities of construction waste, impacts on cultural heritage in some cases, although quite unlikely, cultural heritage chance finds, unsafe working conditions, poor occupational health and safety practices. The potential risks and impacts are (i) predictable and expected to be temporary (ii) low to medium in magnitude; (iii) site-specific, without likelihood of impacts beyond the actual footprint of the project; and (iv) low probability of serious adverse effects to human health and/or the environment. The project's risks and impacts can be easily mitigated in a predictable manner.

The procurement of medical supplies and medical equipment have limited, if any, negative impacts.

The utilization of medical equipment and supplies related to the emergency response to COVID-19 component, carries specific risks to the environment, communities, and project workers. Such risks may include insufficiency of the design and quality of safety arrangements to be put in place within hospitals, laboratories, and other related premises for avoiding internal spread of infection and its transmission to hospital personnel; the inadequacy of medical waste management systems and

facilities related to the handling, transportation and disposal of hazardous and infectious healthcare waste; inadequacy of management of flammable materials and medical eqipement

The organization of the design and quality of safety arrangements and medical waste management is of the highest concern related to other risks associated with the Component 2. The project will mitigate these risks by adhering to WHO guidelines as well as Environmental Health and Safety (EHS) Guidelines of the World Bank Group and other good international industry practice (GIIP) and national legislation and guidelines.

No major adverse social impacts are expected under project (Component 2). Implementation of the Component 2 activities will have positive social impacts and urgently needed.

Under the project, people with disabilities will benefit from the universal access design features of the rehabilitated public health laboratories.

Furthermore, energy efficiency measures are also likely to produce positive outcomes, by contributing to national objectives of reducing energy consumption and GHG emissions.

No involuntary resettlement impacts are anticipated, and no resettlement and land acquisition will take place. Any activities that might cause land acquisition or involuntary resettlement will not be eligible for financing.

The project will be implemented in strict adherence to the principles of equality and non-discrimination.

Access to services and supplies, funded under the project, will be provided to all people, regardless of their social status, based on the urgency of the need.

As repair and rehabilitation works are expected to have low to medium environmental and social impacts, thus development of ESMP Checklists (prepared for typical works with predictable impacts) will be prepared for each sub-project (no need for the full-scale EIA). Cultural heritage related risks will be addressed through the development of Cultural Heritage Management Plan (CHMP) annexed to ESMP Checklist. Infection Control and Waste Management Plan (ICWMP) will be developed to address the risk of COVID-19 and potential inadequate medical waste management.

The Initial Stakeholder Engagement Plan (SEP) is prepared as early as possible, before project appraisal, and was disclosed on the MoPPCSA and WB website on May 6, 2020. It will be updated periodically as necessary. Also, draft version of the Environmental and Social Commitment Plan (ESCP) is prepared and will be further developed in parallel with the ESMF development.

Component (2) - Public Health Surveillance and Preparedness will be implemented by the Project Implementation Unit (PIU-1) that will be established within the MoPPCSA and PIU-2 that will be established within MoH.

The main Project Implementation Unit for overall Project will be established within the MoPPCSA (PIU-1). The MoPPCSA PIU will be responsible for implementation of Component 1 and civil works under the sub-component 2.1. Also, as a main PIU, the MoPPCSA PIU will be accountable for reporting to both the World Bank and the Project Steering Committee (PSC) on all project activities and progress (for Component 1 and 2). A second PIU, the MoH PIU, will be established within MoH and will be responsible for all other activities under Component 2, except civil works (procurement of medical equipment, ensuring guidelines and trainings to public health officials and health care workers,

support institutional and organizational, restructuring of facilities for the purposes of managing public health outbreaks, etc).

The PIU will be responsible for project coordination, the preparation of consolidated reports. It will be responsible for overall implementation of its respective activities, including functions such as procurement, technical inputs, progress monitoring, quality control, and social and environmental safeguards.

The World Bank's environmental and social safeguards specialists will provide training on ESF and relevant standards to build capacity of the relevant PIU and all other relevant staff of the engaged ministries, and guide them in the preparation, implementation and supervision of all project environmental and social instruments (OHS environmental and social assessments, ESMP/ESMP checklist preparation, stakeholder engagement and grievance redress, etc). Also, World Bank team consisting of staff with relevant competencies in operations, procurement, finance, safeguards, and technical content on disaster risk management and seismic risk reduction for public and private infrastructure, as well as health and education and will provide implementation support. Implementation support will be provided in real time, through telephone and videoconferencing facilities, so that issues are identified and addressed proactively, but also by monitoring the timely preparation of environmental and social assessments and management instruments, review of inputs from environmental and social specialists throughout the Project, formal implementation support missions and field visits. Capacity support will be ensured from the project budget.

Furthermore, to ensure that the environmental and safeguards processes are adhered to in a fashion acceptable to the World Bank, MoPPCSA PIU will provide training on implementation of environmental and social due diligence documents to all staff working with contractors and sub-contractors that are responsible for environmental and social issues.

The Chapters of the Environmental and Social Management Framework document are following:

→ INTRODUCTION

This Chapter consist short description of ESMF purpose and principles and explains procedure of public disclosure of ESMF.

→ PROJECT DESCRIPTION AND EGLIBILITY

The Chapter gives project description in more details, explains project objectives, beneficiaries and provides exclusions from the project. Also, a short baseline on earthquake and COVID-19 situation in Croatia is presented in this chapter.

→ ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION

This Section provides general information about relevant natural characteristics of the Republic of Croatia and project area in terms of environmental characteristic (air emissions and air quality, water quality, waste management, noise, nature protection, climate change), basic demographic, economic data, social protection and data on health care system, administrative division of Croatia.

→ NATIONAL ENVIRONMENTAL AND SOCIAL LEGISLATION AND INSTITUTIONS RELEVANT FOR THE PROJECT IMPLEMENTATION

Description of relevant national environmental and social legislation and procedures, including overview of institutional framework is provided in this part of the document.

→ OVERVIEW OF WORLD BANK ENVIRONMENTAL AND SOCIAL STANDARDS

This Chapter provides the brief overview of the World Bank Environmental and Social Standards, and results of preliminary screening (relevant ones that should be considered for the project to ensure prevention, mitigation and compensation in case of adverse impacts of project development to environmental and social conditions).

→ GAP ANALYSES OF ESS AND NATIONAL LEGISLATION COMPLIANCE

Results of compliance analysis of WB ESS and national legislation are presented in this segment.

→ SCREENING OF POTENTIAL ENVIRONMENT AND SOCIAL IMPACTS

This Chapter provides description of possible environmental and social risks and impacts that may occur during implementation of project activities

→ IMPACT MITIGATION AND DUE DILIGENCE DOCUMENTS AND DECISIONS

Environmental and social due diligence instruments envisaged under the national legislation and World Bank ESS, including environmental and social screening results are discussed in the Chapter. In also provides overview of mechanisms, activities, and measures that will be implemented to meet standards relevant to the project.

→ PROJECT IMPLEMENTATION SETIING UP

This part contains a description of the organizational structure of the Project Implementation Units within the MoPPCSA and MoH as a responsible Units for implementation of the project and reporting arrangement.

– FEEDBACK AND GRIEVANCE REDRESS MECHANISM AND PUBLIC REACH AND CITIZEN ENGAGAMENT

This Chapter describes channels that will be available to stakeholders who would like to submit complaints, feedback, queries, suggestions, or compliments and the way project activities will be communicated with the public.

ANNEXES

ANNEX I – INSTRUCTION IN WRITING ACCORDING TO ADR

ANNEX II – ECOLOGICAL NETWORK FOR COMPONENT 2 (NATURA 2000)

ANNEX IIII – THE NATIONAL EIA PROCEDURE

ANNEX IV - NATURA 2000 NETWORK AND PROTECTED PARTS OF NATURE – LEGAL PROTECTION PROCEDURE ACCORDING TO CROATIAN LEGISLATION

ANNEX V - PROCEDURE OF ISSUING LOCATION, BUILDING AND USE PERMIT ACCORDING TO CONSTRUCTION ACT (OG 153/13, 20/17, 39/19,125/19) AND THE PHYSICAL PLANNING ACT (OG 153/13, 65/17, 114/18, 39/19, 98/19)

ANNEX VII - PROCEDURES FOR ISSUING LOCATION, BUILDING AND USE PERMITS (regular procedure – no natural disaster proclaimed)

ANNEX VIII - ANNEX III of the Technical Regulation for Building Structures (OG 17/17,75/20)

ANNEX VIIII - PROTECTION OF CULTURAL HERITAGE WITHIN BUILDING PERMITTING PROCESS ACCORDING TO ACT ON THE PROTECTION AND PRESERVATION OF CULTURAL PROPERTY (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20)

1 INTRODUCTION

On March 22, 2020, the City of Zagreb was struck by earthquake, which severely damaged public buildings, hindering the effective delivery of health and education services. The earthquake took place 11 days after the World Health Organization declared COVID-19 to be a pandemic, a crisis that has stressed both the health system and public finances, which additional hinder earthquake recovery.

On 28 and 29 December 2020, the Republic of Croatia was hit by new strong earthquakes, the strongest of which was magnitude 6.2 on the Richter scale with the epicentre near the City of Petrinja (placed in Sisak-Moslavina County). The material damage in the Sisak-Moslavina County, especially in the area of the City of Petrinja and its surroundings, is enormous and numerous buildings were destroyed or damaged. Material damage was also reported in the area of Karlovac County, Zagreb County and Krapina-Zagorje County.

Croatia is in a unique situation, facing a multi-layered emergency due to earthquakes, COVID-19 outbreak, and the related economic and fiscal implications.

The Government has implemented a series of measures to address the health impact of the COVID-19 virus, including the publication and dissemination of multilingual public health materials, closure of schools, prohibitions on large gatherings, deferral of elective health care, and sheltering of at-risk populations, such as the elderly. The government's proactive response has stemmed the tide of the epidemic and the number of cases is gradually declining. Croatia's proximity to several epicentres in the European outbreak, the outbreak of COVID-19 has been less acute than that experienced in other parts of Europe. Nevertheless, WHO's scenario modelling anticipates that there will be continued transmission and waves of the outbreak in the next 12-18 months, with peaks expected during winter months.

Investments under this project (Component 2) have been chosen to provide foundations for adaptive and improved service delivery. For example, telemedicine is appropriate for COVID-19 and public health outbreak response but also beneficial to primary care and integrated care[1] service delivery objectives. It is not within the scope of the project to address all institutional challenges or engage in deep sector reform, however, targeted interventions can serve as a catalyst for high-quality service delivery that is also cost-effective. In terms of emergency response, the MoH, the Croatian Institute of Emergency Medicine, and the Croatian Institute of Public Health will benefit from training, technical assistance, equipment, and supplies that facilitate their ability to detect and manage public health outbreaks.

The repair and rehabilitation of public health laboratories efforts will support investments, which consider renovation needs and the importance of sector strategies. Laboratories and parts of the public health laboratory network have not yet been identified as needing repair and rehabilitation but will be during the project implementation and also will be included in capacity-building activities to develop the public health surveillance and preparedness system. The project will not seek to create excess secondary and tertiary capacity, such as increasing the number of permanent acute beds or opening new facilities or extend the capacities of existing. Should additional beds for COVID-19 patients be needed, the project would support the flexible capacity through the repurposing of other facilities or forums.

[1] Somanathan, Finkel, and Arur. 2019. "Strengthening Integrated Care in Central and Eastern Europe." HNP Discussion Paper http://documents.worldbank.org/curated/en/744431582122665954/pdf/Strengthening-Integrated-Care-in-Central-and-Eastern-Europe.pdf.

According to the WB Environmental and Social Framework (ESF), at earlier stage, there is a need for development of Environmental and Social Management Framework (ESMF) in order to provide general policies, guidelines, codes of practice and procedures to guide environmental due diligence of the sub-project activities and sustainable implementation of the all sub-projects selected for financing.

1.1 The Environmental and Social Management Framework objective

Environmental and Social Management Framework (ESMF) is an instrument that examines the risks and impacts when a project consists of a program and/or series of subprojects, and the risks and impacts cannot be determined until the program or sub-project details have been identified.

Since specific sub-projects under the Component 2 will be determined during the project implementation, the ESMF was found to be the most appropriate environmental due diligence instrument.

The ESMF ensures that the identified sub-projects are correctly assessed and mitigated from environmental and social point of view to meet requirements of the WB ESF and its applicable Environmental and Social Standards (ESS), as well as national environmental and social legislation.

It sets out the principles, rules, guidelines, procedures and codes of practice for the management of environmental and social issues that might arise due to project interventions, and as such constitutes a set of measures for the development of subproject level - Environmental and Social Management Plans (ESMPs[2]) and/or ESMP Checklists.

ESMF includes but is not limited to: relevant information on the areas where the sub-projects are expected to be implemented; any potential environmental or social vulnerability of such areas; information on potential impacts and mitigation measures commensurate to the scale of the impacts. Also, ESMF gives an overview of the relevant environmental and social national legislation related to the project and the WB ESS, presents the assessment of the institutional capacity required to ensure proper environmental and social management and describes mandatory principles, objectives and approach to be followed while designing environmental mitigation measures for planned project activities.

Implementation of ESMF is mandatory through Environmental and Social Commitment Plan (ESCP) a legally binding document that defines material measures to be taken in the implementation towards meeting ESF. ESMF stipulates procedures and formats that will be used also in the identification, management and monitoring of occupational health and safety (OHS) as well as community health and safety issues associated with the Project interventions.

Therefore, developing the ESMF is also important to identify other specific environmental and social instruments and management tools required by the ESF, such as the Stakeholder Engagement Plan (SEP), Infection Control and Waste Management Plans (ICWMP), Cultural Heritage Management Plan (CHMP), etc.

[2] ESMP is an instrument that details the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and the actions needed to implement these measures.

1.2 Public disclosure and consultation of ESMF

The electronic version of the ESMF was disclosed, accompanied by a call for comments, on the Ministry of Health (MoH) website and MoPPCSA website on January 5, 2021. In the same time, a paper copy of ESMF was made available for public at MoH and MoPPCSA reception. Both remained accessible to public for until January 22, 2021. The ESMF disclosure was followed participation in organized virtual public consultations meeting. The Public Consultation meeting of the ESMF took place on January 21, 2021. In addition to the general public call, the government and relevant non-governmental organizations are invited through official invitations sent out by the MoPPCSA.

The objectives of the public consultations are:

1. To inform the public and stakeholders about the objectives and project developments and the expected environmental and social effects.

2. To collect information and data from the public and/or the communities that will be affected by the project.

3. To amend the project and ESMF accordingly.

4. To ensure participation of the public and local communities in process and support for the project.

ESMF is found final when the relevant comments, submitted during the consultation period, are: (i) addressed in the ESMF and (ii) incorporated as minutes of the public consultations in a separate chapter or annex. Once finalized, ESMF is re-disclosed at MoH and MoPPCSA web site.

The minutes of public consultation in ANNEX XVI reflect the process and the outcome of public consultation and disclosure.

2 PROJECT DESCRIPTION AND ELIGIBILITY

2.1 Baseline information on earthquake event and COVID-19

On March 22, 2020, the City of Zagreb was struck by the strongest earthquake of magnitude (ML) 5.5, focal depth of less than 10 km, occurred at 06:24 hours local time with an epicenter 7 km north of the city center of the capital, Zagreb. Several aftershocks occurred, the most significant of which measured Mw 5 and occurred on the same day at 07:01 hours, with an epicenter very close to that of the main shock. The maximum felt intensity from the main shock was reported as VII–VIII on the Mercalli–Cancani–Sieberg (MCS) Macroseismic Intensity Scale (strong shaking).[3] In addition to Zagreb, towns and municipalities in Zagreb County and Krapina-Zagorje County have been significantly affected. The strongest reported impact was in Kašina.[4]

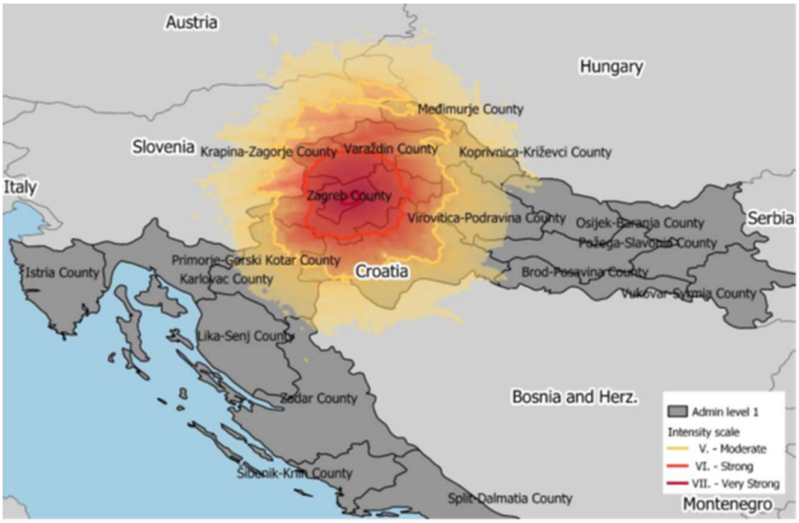


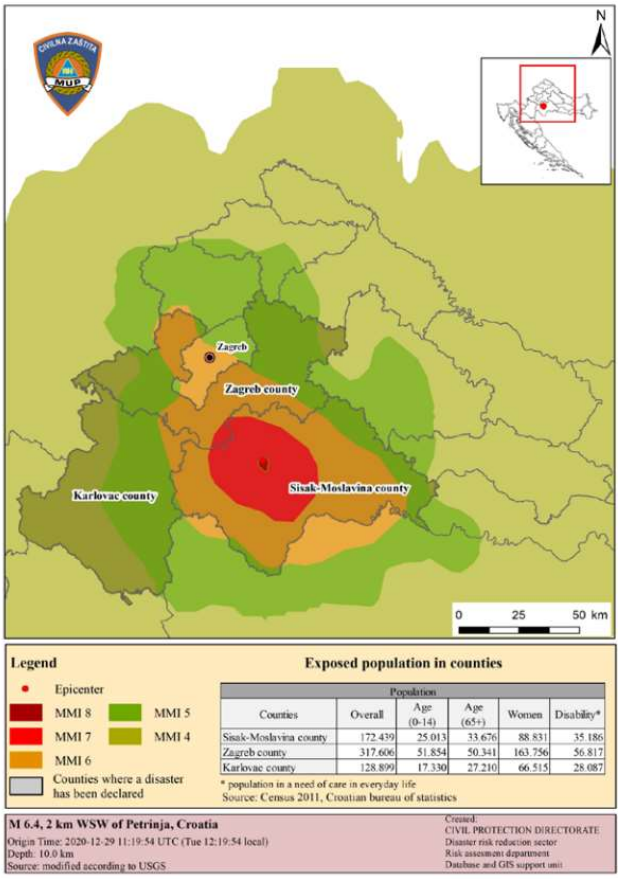
Figure 1. Ground Shaking Intensity Map for the Main Shock[5]

On 28 and 29 December 2020, the Republic of Croatia was hit by new strong earthquakes, the strongest of which was magnitude 6.2 on the Richter scale with the epicenter near the City of Petrinja. The quake was felt throughout Croatia and in the surrounding countries, and the highest intensity was estimated to be VIII - IX (eight to nine) degrees EMS scale. The material damage in the Sisak-Moslavina County, especially in the area of the City of Petrinja and its surroundings, is enormous and numerous buildings were destroyed, ie destroyed and damaged. Material damage was also reported in the area of Karlovac County, Zagreb County and Krapina-Zagorje County.

[3] Global Rapid post-disaster Damage Estimation (GRADE) Briefing Note, Zagreb-Croatia Earthquake of 22 March 2020. World Bank/Global Facility for Disaster Reduction and Recovery Disaster Resilience Analytics and Solutions (D-RAS) Team, (March 27, 2020).

[4] GRADE Briefing Note, Zagreb-Croatia Earthquake of 22 March 2020. World Bank/Global Facility for Disaster Reduction and Recovery Disaster Resilience Analytics and Solutions (D-RAS) Team, (March 27, 2020).

[5] D-RAS, World Bank/Global Facility for Disaster Reduction and Recovery



Source: *Civil Protection Directorate, MoI.*

Figure 2. Counties where a state of disaster was declared after the earthquake near Petrinja[6]

These earthquakes and aftershocks severely damaged public buildings, hindering the effective delivery of health and education services and directly affecting the economy of the city and country.

According to an assessment by the University of Zagreb, 137 health facilities were damaged by the earthquake. Several hospitals that previously had high occupancy rates suffered substantial structural damage, forcing the evacuation of patients.

Since the earthquake took place 11 days after the World Health Organization declared COVID-19 to be a pandemic, and four days after the Government put in place increasingly comprehensive measures culminating in a nationwide lockdown on March 18, 2020, it has affected the delivery of critical health services by causing significant damage to public health capabilities and hospitals critical to both managing the current coronavirus disease crisis and the health system overall.

2.1.1 COVID-19 situation in the Republic of Croatia

Croatia's first confirmed COVID-19 patient was registered on February 25, 2020. As early as January 23, 2020, the Government began implementing a series of measures to address the health impact of the virus including the publication and dissemination of multilingual public health materials, the closure of education facilities, prohibitions on large gatherings, the deferral of elective health care, and sheltering of at-risk populations, such as the elderly.

[6] Croatia December 2020 Earthquake Rapid Damage and Needs Assessment

Croatian Government declared a coronavirus pandemic on 11 March 2020[7]

Civil protection system in Croatia is governed by the Act on Civil Protection System, according to which civil protection headquarters is an expert, operational and coordinating body established on state, regional and local level which implements measures and activities of civil protection during big accidents and catastrophes.[8]

The Civil Protection Headquarters of the Republic of Croatia was established by the Croatian Government on 20 February with the purpose to coordinate all services in the event of the occurrence of COVID-19 in Croatia.

In the context of the outbreak and spread of COVID-19, the Government has taken various restrictive measures, imposing strict restrictions on public gatherings, meetings, and people's movement, and others advising against public group events. People have been advised to exercise social distancing and specifically to avoid public gatherings to prevent and reduce the risk of the virus transmission.

The Government has also launched a special website to publish the latest information on the COVID-19 outbreak (measures, number of new infections, etc.). The information on this web site are available on Croatian and English language: https://www.koronavirus.hr/en. The Decisions of the Civil Protection Headquarters and the recommendations of the Croatian Institute of Public Health are also available at their web site[9]. The STOP COVID-19 application was presented in Croatia and it can be used on voluntary bases.

As of 25 February, total of 103.718 people infected with corona virus was recorded in Croatia. On 22 November, 1.353 deaths from the disease have been reported. Most of the people who died had significant comorbidities which in connection with COVID-19 were associated with a high probability of developing even more serious form of the disease. The largest number of the deceased refers to those of advanced age. The average age of the deceased in this wave of epidemics is 77 years[10].

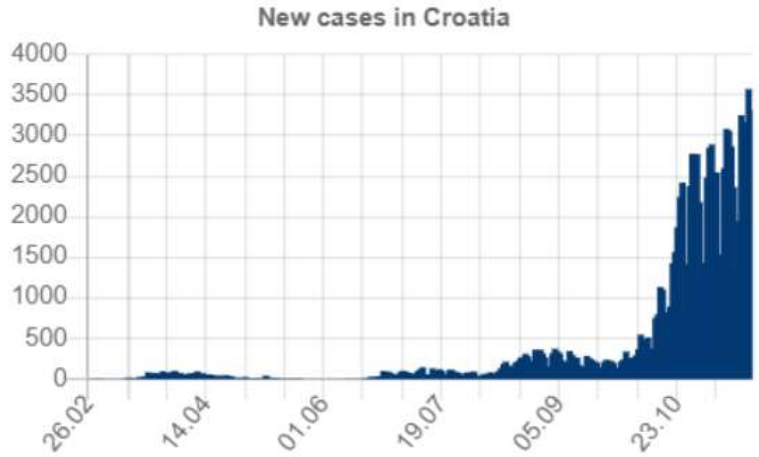


Figure 3. New cases of COVID-19 in Croatia[11]

[7] Government of the Republic Croatia, Official Government website for accurate and verified information on coronavirus, link available at: https://www.koronavirus.hr/vladine-mjere/101
[8] Act on Civil Protection System (OG 82/15, 118/18, 21/20), Article 21
[9] https://www.hzjz.hr/sluzba-epidemiologija-zarazne-bolesti/koronavirus-najnovije-preporuke/
https://civilna-zastita.gov.hr/odluke-stozera-civilne-zastite-rh-za-sprecavanje-sirenja-zaraze-koronavirusom/2304
[10] https://www.koronavirus.hr/UserDocsImages/Dokumenti/Tjedno%20izvje%C5%A1%C4%87e%20za%2016.11..pdf
[11] Source: https://www.koronavirus.hr/en, date 22.11.2020

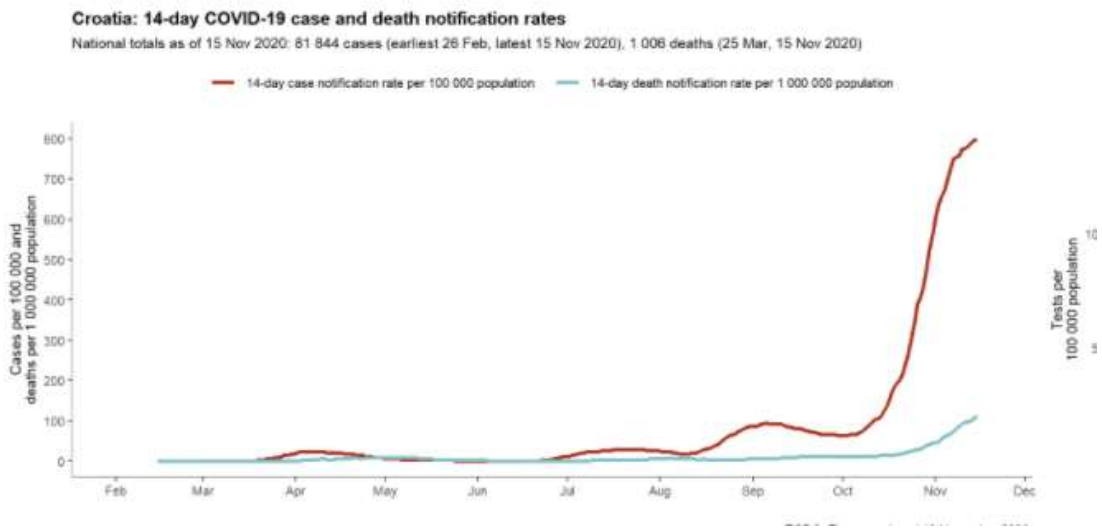


Figure 4. Croatia's 14-day COVID-19 case and death notification rate[12]

From May 2020, the situation was considered fully under control, with no new cases being reported for several weeks. Since mid-June, a sharp increase in new cases amounting to around 100 cases per day has been recorded. As of 13 July, wearing of facemasks is mandatory in most public spaces, and the authorities have reintroduced restrictions on gatherings. Measures to maintain physical distance, maintain hand hygiene and disinfection are still in force.

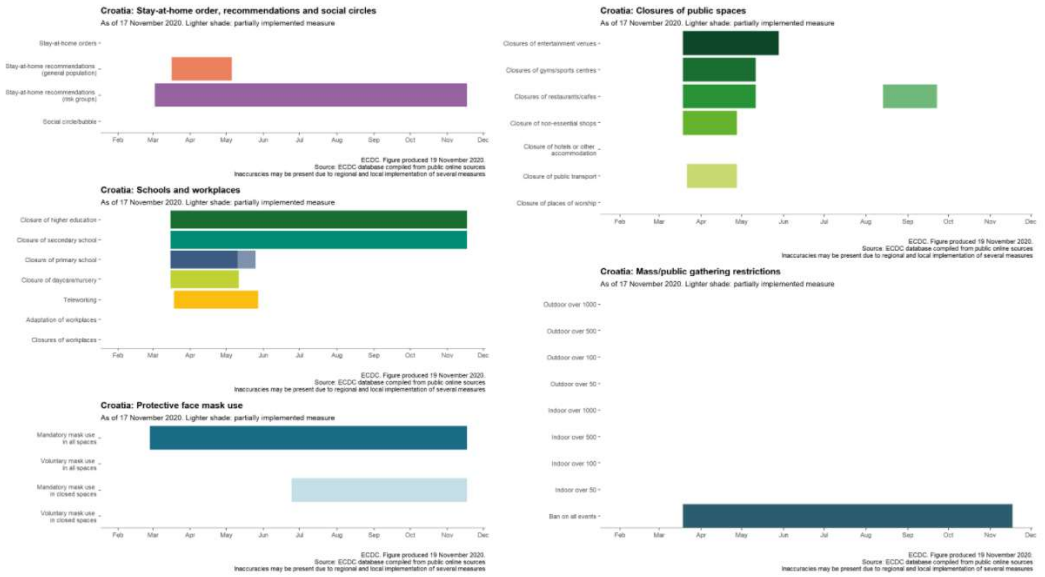


Figure 5. Croatia's response measures overview, as of 17 November 2020 (Source: https://www.ecdc.europa.eu/en/covid-19/country-overviews)

[12] Source: https://www.ecdc.europa.eu/en/covid-19/country-overviews

There are currently 26 testing places in the Republic of Croatia that perform RT-PCR analysis and collect samples. All processed samples enter national Croatian Health Insurance Institute platform, which is accessible to all county public health institutes. County public health institutes submit data about positive cases, sources of infection and hotspots as part of their daily reports to the Croatian Institute of Public Health. The Croatian Institute of Public Health collects information about hotspots, hospital treatment of COVID-19 positive persons, COVID-19 positive patients on respirators and the deceased.

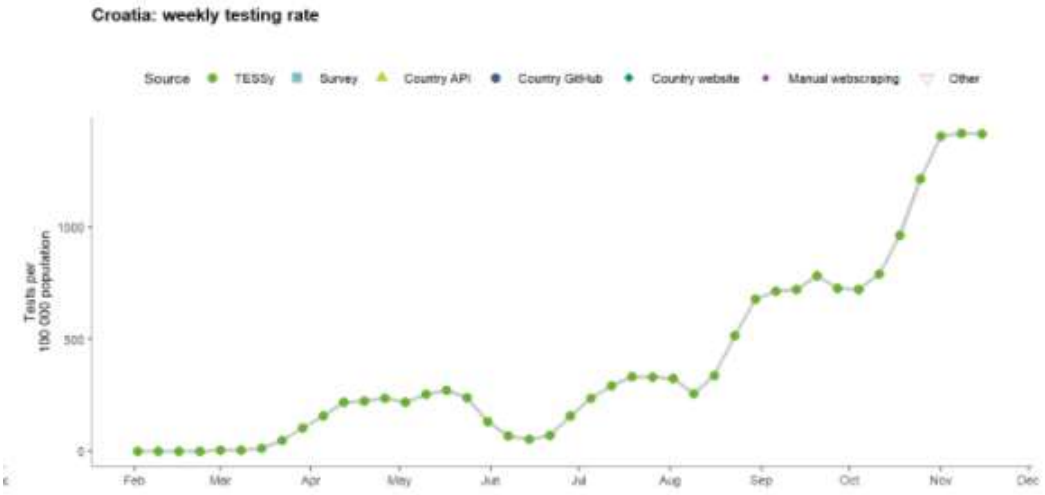


Figure 6. Croatia's weekly testing rate[13]

When it comes to ensuring sufficient physical infrastructure, on the November 2, 2020, the initial availability and distribution of physical resources in Croatia was good. High number of intensive care units (ICU) beds, 14,7 per 100.000 population (EU average 11,5)[14] is recorded.

According to the decision made by MoH, on November 2, 2020, one clinical hospital (Dubrava Clinical Hospital in Zagreb) was declared as COVID-19 hospital and it is devoted only to COVID-19 patients. Throughout the COVID 19 epidemic, the MoH agrees with local governments to establish secondary centers for the admission of COVID 19 patients who require more complex treatment than conventional accommodation. This primarily refers to special hospitals, but also other appropriate facilities, and hospital institutions have timely increased the capacity for isolation in the unified emergency hospital admissions and inpatient wards in order to be ready to accept a larger number of new patients.

Also, certain hospitals were additionally empowered by mobile medical facilities (tents, containers, etc.). Each general hospital had to prepare some isolated space or building for COVID 19 patients.

For patients with non-severe symptoms, spaces with beds and necessary facilities were established in some non-medical facilities, like sports halls. For this purpose, Zagreb's Arena Centre, Split's Spaladium hall, Rijeka's Dvorana Mladosti venue as well as similar locations in Varazdin and Osijek

[13] Source: https://www.ecdc.europa.eu/en/covid-19/country-overviews

[14] https://www.covid19healthsystem.org/countries/croatia/livinghit.aspx?Section=2.1%20Physical%20infrastructure&Type=Section

have been selected for installing a total of 2,360 beds, if necessary.[15]

Active engagement of primary health care institutions throughout Croatia was organized. At over 50 locations in 17 counties, the so-called COVID 19 clinics where patients are examined are organised.

Multiple strategies have been implemented to expand the capacity of the existing workforce, like asking health professionals to work extra hours, including moving from part-time to full-time work or allowing extra overtime[16], engaging medical student volunteers; engaging Croatian Army etc.

Croatian Army personnel have been actively helping civil institutions and citizens since the outbreak of the coronavirus pandemic, and between March and October 2020, they set up 51 tents for treatment of patients or triage outside medical institutions across the country. Apart from providing logistical assistance to medical institutions in setting up camps and tents to provide additional capacity for the accommodation of patients or triage, assistance has also been provided by medical staff working for the army.[17]

Figure 7. Croatian army support during the COVID-19 pandemic[18]

At the end of November 2020, the Croatian Institute of Public Health (CIPH), the University of Zagreb, School of Medicine and the School of Public Health "Andrija Štampar" established a call center to help inform, counsel and monitor people with COVID-19 and their contacts, with the aim of contributing to the prevention and suppression of the COVID-19 pandemic. This call center employs also medical students of all years – volunteers.[19]

Figure 8. Medical students support during the COVID-19 pandemic[20]

15 https://www.croatiaweek.com/croatia-ready-to-set-up-2360-beds-in-makeshift-hospitals-if-necessary/

16 https://apps.who.int/iris/bitstream/handle/10665/336296/Eurohealth-26-2-51-57-eng.pdf?sequence=1&isAllowed=y

17 https://www.croatiaweek.com/croatia-ready-to-set-up-2360-beds-in-makeshift-hospitals-if-necessary/

18 Source: https://www.morh.hr/logisticka-pomoc-ekspedicijski-kampovi-i-satori/https://www.covid19healthsystem.org/countries/croatia/livinghit.aspx?Section=2.1%20Physical%20infrastructure&Type=Section

19 https://www.hzjz.hr/sluzba-epidemiologija-zarazne-bolesti/otvoren-pozivni-centar-za-obavjescivanje-oboljelih-od-covid-19-i-njihovih-kontakata-u-suranji-hzjz-a-mef-a-i-snz-a/

20 Source: https://www.hzjz.hr/sluzba-epidemiologija-zarazne-bolesti/otvoren-pozivni-centar-za-obavjescivanje-oboljelih-od-covid-19-i-njihovih-kontakata-u-suranji-hzjz-a-mef-a-i-snz-a/

Croatia participates in the joint procurement of vaccines against COVID-19, carried out by the European Commission. As of February 2021, vaccines from Pfizer / BioNTech (mRNA vaccine) and Moderna (mRNA vaccine) are used in Croatia. The public health institutes organize the distribution / collection of vaccines at their place, with the help of the Civil Protection Headquarters.

Croatian Institute of Public Health is responsible for the management of the vaccine supply chain (procurement and distribution of vaccines) as well as for monitoring the expiry date of stock. CIPH distributes it to the county Institutes of Public Health (21 county institutes) which organize the distribution of vaccines in their field. Vaccinators are family doctors, epidemiologists, as well as other doctors and health workers who can also vaccinate. Citizens receive all information about the vaccination procedure from their competent doctor. MoH set up national on-line platform (https://cijepise.zdravlje.hr/). Citizens can apply for vaccination via this website. In addition, citizens can apply for vaccination by contacting their family doctors.

The outbreak of COVID-19 in Croatia has highlighted the importance of investing in public health preparedness[21] for future outbreaks and building the institutional capacity of health agencies.

A focus on public health preparedness is rooted in the Government's recognition that there is a need to prepare for a 'new normal', where health agencies will need to play a greater role in adaptive emergency response. The WHO and other epidemiological experts anticipate continued transmission and waves of the virus in the next 12–18 months. The peaks are likely to be driven by winter pressures on health systems, the loosening of social distancing measures, and the return of tourists to the country in the summer of 2020. Restoring and strengthening the physical and functional capacity of core public health institutions and the wider health system is critical for ensuring that future waves of infectious disease can be well managed. Mitigating the number of lives lost and being well positioned to restart economic activity depend on a reduction in disease transmission, strong health systems, and adequate public health capacity, particularly when the emergency period is not short term or definitive.

2.2 Project development objective and project components

The project development objective (PDO) is to assist Croatia with earthquake reconstruction efforts in City of Zagreb, Zagreb County, Krapina-Zagorje County, Karlovac County and Sisak-Moslavina County, improve institutional capacity for reconstruction, and strengthen national systems for public health preparedness.

The Project have three (3) components and five (5) subcomponents shown in Table 1.

[21] Public health preparedness is the capability of the public health and health care systems, communities, and individuals to prevent, protect against, quickly respond to, and recover from health emergencies, particularly those whose scale, timing, or unpredictability threatens to overwhelm routine capabilities. In the context of this project, the national system for public health preparedness refers to the network and functionality of institutions whose primary responsibility is to detect and manage outbreaks of infectious diseases. This includes surveillance, testing, and emergency response capabilities. However, given that unknown associations can drive outbreaks, the public health preparedness also entails understanding how environmental, social, behavioural and genetic risk factors play a role in public health outbreaks.

Table 1. Overview of project components

Component 1: Earthquake Recovery and Reconstruction
• Subcomponent 1.1: Immediate Public Safety Interventions
• Subcomponent 1.2: Rehabilitation and Reconstruction of Health and Education Facilities
• Subcomponent 1.3: Housing Reconstruction Support Program Design
Component 2: Public Health Surveillance and Preparedness
• **Subcomponent 2.1: Case Management and Surveillance**
• **Subcomponent 2.2: Public Health Preparedness**
Component 3: Project Management

This ESMF covers the Component (2) - Public Health Surveillance and Preparedness and further in document this project component will be analyzed.

Summary of the subcomponents for Component 2:

Subcomponent 2.1: Case management and Surveillance

This subcomponent will focus on case detection and confirmation, contact tracing, recording and reporting capabilities, and surveillance to strengthen the Government's capacity to promptly and proactively manage future outbreaks. Also, this component will ensure repair and rehabilitation of public health laboratories.

This subcomponent would:

a) **strengthen disease surveillance systems and equipment, public health laboratories, and epidemiological capacity for early detection and confirmation of cases;**

b) **support the repair and rehabilitation of public health laboratories[22];**

c) **support the development of systems for active contact tracing and reporting of new cases; and**

d) **support epidemiological and laboratory investigation of selected health conditions.**

Subcomponent 2.2: Public Health Preparedness

This subcomponent will support the health care system for preparedness planning to provide optimal medical care, maintain essential community services, and minimize risks for patients and health personnel, in part by training health facilities' staff and frontline workers on risk mitigation measures and providing them with supplies and equipment for future emergencies.

This subcomponent will include

a) **providing emergency medical vehicles, medical and laboratory equipment and supplies, medicines, technical assistance and training to public health officials and health care workers, all to strengthen capacity of the health system to respond to public health outbreaks;**

b) **providing personal protective equipment (PPE) and gear for health care workers and public health rapid response personnel (such as relevant medical specialists, veterinarians, and**

[22] "Rehabilitation'" is structural strengthening of existing buildings to meet a higher seismic performance.

entomologists);

c) **providing equipment and supplies for telemedicine to monitor and support patients to support the health system as needed;**

d) **repurposing and equipping selected health care facilities to deliver critical medical services and cope with increased demand for services in a public health outbreak;**

e) **supporting institutional and organizational restructuring of facilities for managing public health emergencies and training of health care staff accordingly, including sector-wide planning activities for medium- and long-term needs.**

Regarding health sector investments, the proposed project (hereinafter the term project refers to Component 2) will support investments to respond to critical preparedness needs while considering the importance of improving the efficiency and quality of health care services. The project will not seek to create excess secondary and tertiary capacity, such as by increasing the number of permanent acute beds. Rather, it will seek to support the restoration of critical services through the financing of the reconstruction of investments that benefit health outcomes and improve service delivery, in accordance with sector priorities.

All construction activities (repair and rehabilitation of public health activities) will be in situ within the bounds of existing building footprints.

The project promotes the building-back-better approach, which comprises improvements in design standards, construction quality, and functionality. The integration of seismic and climate change consideration into the infrastructure designs of investments will further enhance the resilience of infrastructure to future disaster and climate risks and help protect people's lives, livelihoods, and assets, contributing to climate change adaptation and mitigation efforts.

2.3 Project beneficiaries

Direct beneficiaries include: health care workers of the facilities to be rehabilitated/equipped, staff of the public health laboratories; medical staff and patients of selected hospitals and intensive care units; front-line health workers; general public impacted by the implementation of "social distancing measures" and targeted by public health communication campaigns, patients/people with existing medical needs, businesses and employers; Ministry of Health government officials; the Civil Protection Headquarters of the Republic of Croatia and county; local civil protection teams; the Civil Protection Headquarters of the City of Zagreb.

Indirect beneficiaries include: the entire population of Croatia because the public health preparedness interventions financed by this project are aimed at monitoring and halting the spread of the virus, while preparing for future waves of infection.

2.4 Results Chain

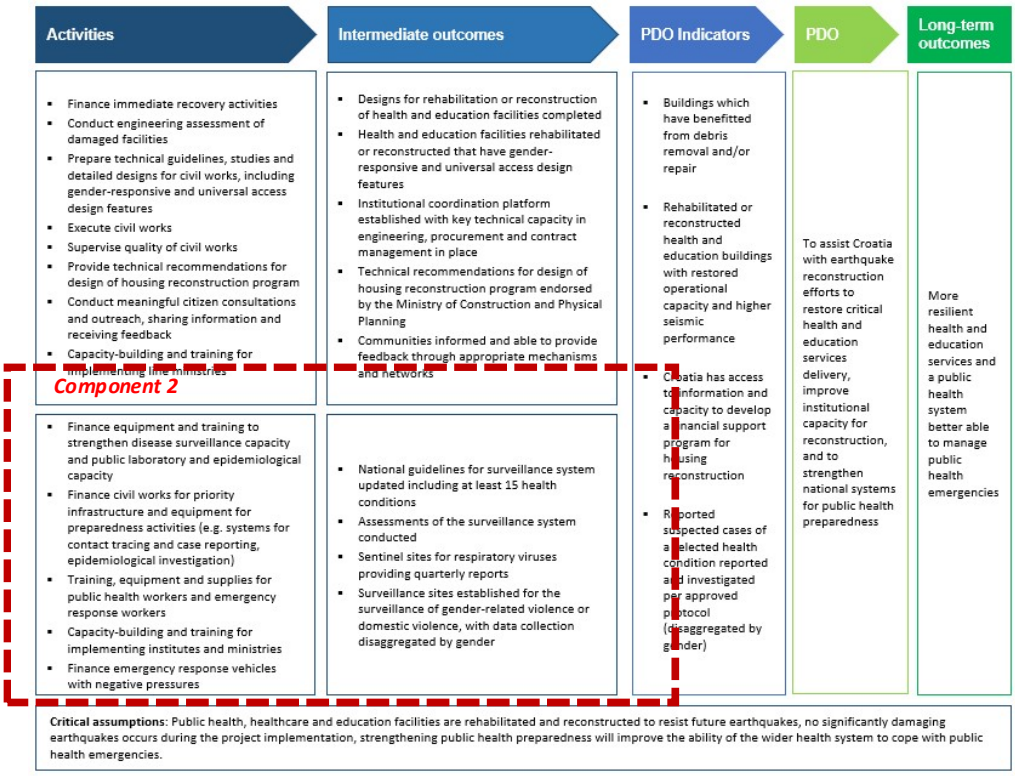


Figure 9. Project Results Chain

2.5 World Bank Group (IFC) Exclusion List

As a part of the general WB Group Exclusion List, the following activities cannot be financed under the Project:

- Activities that may cause long term, permanent and/or irreversible (e.g. loss of major natural habitat) adverse impacts;
- Activities that have a high probability of causing serious adverse effects to human health and/or the environment not related to treatment of COVID-19 cases;
- Activities that may have significant adverse social impacts and may give rise to significant social conflict;
- Activities that may affect lands or rights of vulnerable minorities;
- There will be no land acquisition or involuntary resettlement under the Project.
- All buildings addressed will be reconstructed in situ within the bounds of existing building footprints;
- Any buildings that require immediate repairs but that are additionally determined to be at risk of partial or total collapse due to structural damage will be excluded from this subcomponent;
- Health facilities with asbestos insulation, pipe lagging, etc. will be excluded from financing under the project;
- Activities that may involve adverse impacts on cultural heritage;
- Reconstruction of private housing.

2.6 Risk Rating

The Project supports activities with low to substantial risk while high risk is excluded.

High risk activities – nature and magnitude of potential impact

- wide range of significant adverse risks and impacts
- long term, permanent and/or irreversible, impossible to avoid entirely
- some cannot be mitigated or require complex, unproven mitigation, sophisticated social analysis
- high in magnitude and/or in spatial extent (large to very large area or population);
- significant adverse cumulative or transboundary impacts;
- high probability of serious adverse effects to human health and/or the environment
- high value and sensitivity (e.g. protected and internationally recognized areas)
- high value, sensitive lands or rights of Indigenous Peoples and other vulnerable minorities
- intensive or complex involuntary resettlement or land acquisition
- impacts on cultural heritage or densely populated urban areas
- may give rise to significant social conflict, harm or human security risks
- a history of unrest in area or sector, concerns about use of security forces

Substantial risk activities – – nature and magnitude of potential impact

- some significant risks and impacts
- mostly temporary, predictable and/or reversible
- possibility of avoiding or reversing but with substantial investment and time
- may give rise to limited degree of social conflict, harm, human security risk;
- medium in magnitude and/or in spatial extent (medium to large area and population)
- less severe, more readily avoided/mitigated cumulative and/or transboundary impacts
- medium to low probability of serious adverse effects to human health and/or the environment (with known and reliable mechanisms to prevent or minimize)
- lower effects on areas of high value or sensitivity
- more readily available and reliable mitigatory and/or compensatory measures

Moderate risk activities – – nature and magnitude of potential impact

- risks and impacts not likely to be significant
- not complex and/or large
- predictable and expected to be temporary and/or reversible;
- low in magnitude;
- site-specific, without likelihood of impacts beyond the project footprint;
- low probability of serious adverse effects to human health and/or the environment

- routine safety precautions are expected to be sufficient to prevent accidents
- easily mitigated in a predictable manner

Low risk activities – – nature and magnitude of potential impact

- minimal or negligible risks to and impacts on human populations and/or the environment
- few or no adverse risks and impacts and issues
- no further assessment after screening

In addition to the nature and magnitude of impact, the risk is also set against:

1. Project type (size, location, physical considerations, infrastructure complexity (e.g. roads, airports, dams, etc.);
2. Borrowers capacity, including the institutional and regulatory framework;
3. Context risks relevant to E&S impact and management.

3 ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION

3.1 Environmental baseline and relevant potential issues

3.1.1 Air emissions and air quality

Emissions of almost all pollutants show a general declining trend between 1990 and 2018 NOx emissions decreased by 53,3%, SO2 by 93,9%, NH3 by 33,7%, NMVOC by 57,8%, CO by 57,6%, $PM_{2,5}$ by 25,8%, PM_{10} by 37,8 %%, TSP by 13,7 %, BC by 28,2%, heavy metals: Pb by 98,4%, Cd by 24,9%, Hg by 64,4%, As by 93,6%, Cr by 61,8%, Ni by 79,6%, Se by 17,8% and Zn by 13,2% while Cu emissions increased by 25,9%. PCDD / PCDF emissions decreased by 42,7%, PCBs by 14,7%, HCBs by 92% and PAHs by 35,8%.[23]

The reason for this declining trend is stricter regulation on air pollutant concentrations and emission limit values, as well as the use of better-quality fuel with lower sulphur content, gasification and connection to the heating network, the use of low-sulphur coal, and to a lesser extent the development of public transport and bicycle paths. Furthermore, due to the reduction of sulphur emissions, sulphur deposition, i.e. acidification, was significantly reduced.

Emissions of the three main pollutants SO2, NOx, NMVOC in 2018 are below, and NH3 emissions are above the prescribed emission quotas set for 2010 and for years after, in accordance with the Gothenburg Protocol[24].

Table 2. Trend of total emissions of the Republic of Croatia by pollutant

Pollutant	Unit	1990	1995	2000	2005	2010	2015	2016	2017	2018	Share of change in period 1990 - 2018	Share of change in period 2017 - 2018	Emission quota in period 2010 - 2020
NOx	kt	108,2	80,2	87,0	85,7	69,3	55,5	54,6	54,7	50,5	-53,3%	-7,6%	87
NMHOS	kt	170,8	120,1	101,2	114,3	92,5	71,8	73,5	70,8	72,2	-57,8%	2,0%	90
SO2	kt	168,5	77,4	60,5	58,6	35,2	15,8	14,8	12,7	10,3	-93,9%	-18,7%	70
NH3	kt	53,8	40,4	41,1	42,9	38,7	33,9	32,0	35,2	35,7	-33,7%	1,4%	30
PM2,5	kt	38,7	36,2	33,9	41,8	37,3	32,1	30,7	29,6	28,7	-25,8%	-3,0%	-
PM10	kt	50,8	45,3	41,9	52,9	46,8	41,0	39,5	38,6	37,8	-25,6%	-2,2%	-
TSP	kt	59,8	53,5	52,1	72,3	62,3	54,3	52,3	52,1	51,6	-13,7%	-1,1%	-
BC	kt	5,4	5,0	4,8	5,8	5,2	4,3	4,2	4,1	3,9	-28,2%	-4,1%	-
CO	kt	554,1	444,3	453,5	416,5	328,0	267,5	258,3	252,5	234,8	-57,6%	-7,0%	-
Pb	t	523,4	263,6	145,3	13,7	8,1	7,9	8,0	8,1	8,4	-98,4%	4,3%	-
Cd	t	1,1	0,8	0,9	1,0	0,9	0,9	0,8	0,8	0,8	-24,9%	4,1%	-
Hg	t	1,1	0,3	0,5	0,6	0,5	0,5	0,5	0,4	0,4	-64,4%	-3,7%	-
As	t	8,6	1,2	1,1	1,1	0,8	0,5	0,4	0,5	0,6	-93,6%	6,9%	-
Cr	t	5,3	3,7	3,2	3,7	2,6	2,2	2,0	2,1	2,0	-61,8%	-5,2%	-
Cu	t	7,5	6,3	7,7	9,7	8,4	8,6	8,8	9,6	9,5	25,9%	-1,3%	-
Ni	t	17,0	13,8	12,6	13,7	7,7	4,5	4,2	4,3	3,5	-79,6%	-18,7%	-
Se	t	0,4	0,3	0,3	0,4	0,4	0,3	0,4	0,4	0,4	-17,8%	-0,4%	-
Zn	t	36,7	30,4	28,6	34,9	33,8	32,3	31,2	31,2	31,9	-13,2%	2,3%	-
PCDD/ PCDF	g I-Teq	48,5	43,1	41,6	49,4	40,0	34,1	32,3	28,7	27,8	-42,7%	-3,0%	-
PAU	t	21,8	16,6	14,9	18,4	17,4	15,7	15,0	14,5	14,0	-35,8%	-3,2%	-
HCB	kg	7,09	6,4	2,0	0,5	0,9	0,4	0,5	0,5	0,6	-92,0%	21,5%	-
PCB	kg	482,8	468,2	441,4	435,7	433,7	424,9	422,1	415,3	411,8	-14,7%	-0,8%	-

Source: MoESD[25]

[23] Emissions of air pollutants in the Republic of Croatia for 2018 (http://www.haop.hr/sites/default/files/uploads/dokumenti/011_zrak/Izvjesca/Emisije%20one%C4%8Di%C5%A1%C4%87uju%C4%87ih%20tvari%20u%20zrak%20na%20podru%C4%8Dju%20Republike%20Hrvatske%20za%202018.%20godinu.pdf)

[24] 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the Convention on Long-range Transboundary Air Pollution

[25] Emissions of air pollutants in the Republic of Croatia for 2018 (http://www.haop.hr/sites/default/files/uploads/dokumenti/011_zrak/Izvjesca/Emisije%20one%C4%8Di%C5%A1%C4%87uju%C4%87ih%20tvari%20u%20zrak%20na%20podru%C4%8Dju%20Republike%20Hrvatske%20za%202018.%20godinu.pdf)

The main source of air pollution in the Republic of Croatia is the energy sector (fuel combustion and fugitive emissions).

Of the total SO2 emissions in 2018, 98,7% come from the energy sector; 25,9% from electricity and heat production, 21,2% from fuel combustion in industry and construction, 42,7% from fugitive emissions - activities in the Refining / storage sector and 8,5% from small combustion plants (fixed and mobile sources). NOx emissions from the energy sector in 2018 amounted to 84,7% of total national NOx emissions. The Energy sector contributes with 99,6% to the total CO emissions in 2018, of which 73% comes from the combustion of fuel in small combustion plants (dominated by households), 12,9% from transport (dominated by road transport), 9,5% from refining / storage, and 3,7% from fuel combustion in industry and construction.

The sectors: production processes and product use, small combustion plants and work vehicles, agriculture, transport and refineries, are dominant regarding NMVOC emissions, and in 2018 these sectors contribute to the total NMVOC emissions with the following: 41,5%, 28,6 %, 12,5%, 8,4% and 5,1%.[26]

A total of 81,5% of NH3 emissions in Croatia in 2018 come from the Agriculture sector, in which the category Manure management contributes with 28,7%, and emissions from the category Production of crops and agricultural soils with 52,8%.

In Croatia, air quality is constantly monitored through monitoring stations, state (25) and local (49). The state network is under the jurisdiction of the Ministry of Economy and Sustainable Development (MoESD), and it is managed by the State Hydrometeorological Institute, while the local network is under the jurisdiction of cities and counties. According to the Decision on the acceptability of the project or the Decision on integrated environmental protection conditions or environmental permit, polluters are required to ensure monitoring of air quality in the vicinity of air pollution sources and these special purpose measurements are an integral part of local air quality monitoring networks. The results of measurements from all measuring stations are published in the Annual Reports on Air Quality Monitoring in Croatia[27], prepared every year by the MoESD, and in real time by each monitor stations are available on the MoESD web page: http://iszz.azo.hr/iskzl/.

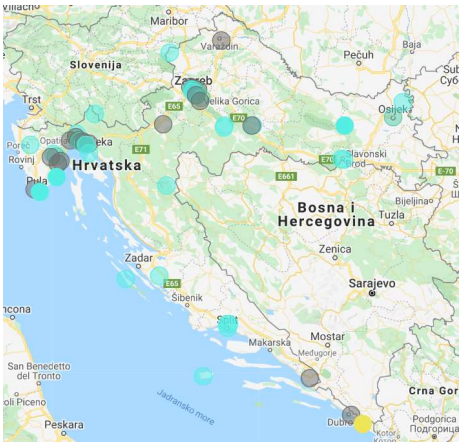


Figure 10. Locations of monitoring stations in the territory of the Republic of Croatia[28]

[26] http://www.haop.hr/sites/default/files/uploads/dokumenti/011_zrak/Izvjesca/Emisije%20one%C4%8Di%C5%A1%C4%87uju%C4%87ih%20tvari%20u%20zrak%20na%20podru%C4%8Dju%20Republike%20Hrvatske%20za%202018.%20godinu.pdf

[27] http://www.haop.hr/hr/godisnja-izvjesca-o-pracenju-kvalitete-zraka-na-podrucju-republike-hrvatske/godisnja-izvjesca-o

[28] MoESD, http://iszz.azo.hr/iskzl/, 16.7.2020.

Concentrations of the following pollutants in the air are monitored by monitoring stations: sulphur dioxide (SO_2), nitrogen dioxide and nitrogen oxides (NO_2 and NO_x), suspended particles (PM_{10} and $PM_{2.5}$), lead (Pb), benzene (C_6H_6), carbon monoxide (CO), ground-level ozone (O_3) and ground-level ozone precursors (volatile organic compounds - VOCs), arsenic (As), cadmium (Cd), mercury (Hg), nickel (Ni), benzo (a) pyrene (BaP) and other polycyclic aromatic hydrocarbons (PAHs), the average exposure indicator for $PM_{2.5}$ (PPI) and the chemical composition of $PM_{2.5}$[29]

The problem of air pollution by suspended particles (PM_{10}) in populated areas in the continental part of Croatia is still the most widespread problem of air pollution. In the agglomerations of Zagreb and Osijek, as well as in larger cities of the industrial zone: Sisak, Kutina and Slavonski Brod, daily limit values (GV) have been continuously exceeded. The largest number of days in which concentrations of suspended particles (PM_{10}) are elevated, is distributed in the colder part of the year in stable meteorological conditions, when the dominant source of pollution is domestic fireplaces. Other sources of pollution are traffic and large point sources. In the mentioned period, the daily limit value of suspended particles was not exceeded at the monitoring stations in the coastal agglomerations. Increased levels of concentrations of suspended particles at monitoring stations in the continental part of Croatia compared to lower recorded levels at measuring stations in the coastal area are caused by climatological differences.

Ground (tropospheric) ozone (O3) is one of the global problems of today, because its relatively long residence time in the atmosphere allows its transmission over long distances. The cycle of formation and decomposition of ozone and its precursors also depends on the intensity of solar radiation. Thus, elevated ground-level ozone values are most often recorded at coastal monitoring stations on hot and dry days.

Dominant sources of nitrogen dioxide (NO_2) pollution are fossil fuel combustion processes in motor vehicles and stationary sources (e.g., home fireplaces and power plants), and exposure to high levels of nitrogen dioxide can have adverse effects on human health. In the period from 2015 to 2017, annual values of nitrogen dioxide concentrations exceeded the limit value in Zagreb at the monitoring station Zagreb - 1, where is the dominant influence of traffic. In 2018 no overrun was recorded through monitoring stations.

Hydrogen sulphide (H_2S) is a gas whose concentrations in the air are measured primarily for the appearance of unpleasant odours at monitoring stations located near emission sources (e.g. refineries, landfills, mineral fertilizer factories). The concentrations measured at the monitoring stations in Croatia are not dangerous to human health, but due to the unpleasant odour they affect the quality of life. Levels of hydrogen sulphide pollution exceeds allowed values at the measuring stations of several cities with refineries and larger landfills (Zagreb (Jakuševac), Slavonski Brod, Sisak, Kostrena (Urinj), Marišćina (Waste Management Centre).

In populated areas where exceedances of limit and/or target values of air pollutants have been recorded, the competent authorities, i.e. cities and local self-government units, have the obligation to develop action plans to improve air quality and ensure the implementation of measures from these plans.

[29] Report on air quality monitoring in the Republic of Croatia for 2018 (http://www.haop.hr/sites/default/files/uploads/dokumenti/011_zrak/Izvjesca/Godi%C5%A1nje%20izvje%C5%A1%C4%87e%20o%20pra%C4%87enju%20kvalitete%20zraka%20na%20podru%C4%8Dju%20RH%20u%202018.%20godini.pdf)

3.1.2 Water quality

The territory of the Republic of Croatia hydrographically belongs to the Adriatic Sea basin and the Black Sea basin and according to the Water Act[30] is divided into two water areas: the Danube River Basin District (DBD) and the Adriatic River Basin District (ABD).

The border between water areas in the territory of the Republic of Croatia follows the natural hydrographic-hydrogeological watershed between the Adriatic and Black Sea basins, which is related to the occurrence of waterproof clasts and poorly water permeable dolomites in the mountainous area of Gorski kotar and Lika. Other boundaries of water areas are defined by the state border on land, e.g. the demarcation line of the coastal and open sea at sea. [31]

The surface of the DBD is 35.117 km^2, which represents 62% of the Croatian land territory. The runoff backbones from the water area are the rivers Sava and Drava, whose watershed is relief defined and passes through the mountain range Ivanščica - Kalnik - Bilogora - Papuk. The area of the Sava sub-basin occupies 25.764 km^2 or 73% of the water area, and the area of the Drava and Danube sub-basins 9.353 km^2 or 27% of the water area. The DBD in the Republic of Croatia is part of the wider international Danube River Basin District. A large number of waters of a river basin district are border or transboundary waters and have interstate significance.

The ABD consists of several basins or parts of basins of Adriatic rivers with associated groundwaters, transitional and coastal waters. The area of the ABD is 35.303 km^2, which is about 40% of the total territory of the Republic of Croatia. The mainland accounts for 18.183 km^2, the islands 3.262 km^2, and the transitional and coastal waters of the sea 13.858 km^2. Outside the boundaries of the water area is 17.722 km^2 of state territory, 17.718 km^2 of territorial sea and about 4 km^2 of uninhabited offshore islands and cliffs. The ABD in the Republic of Croatia belongs to the wider international basin of the Adriatic Sea. Part of the waters of the ABD are border or transboundary waters of interstate importance. [32]

Figure 11. Water districts and sub-basin areas with significant watercourses [33]

The total water exploitation in Croatia is significantly below the level that could jeopardize the water availability. In the coastal area and on the islands, increased pressure on water resources is evident in the summer months. Although the gradual reduction of losses in public water supply to an acceptable

[30] OG 66/19
[31] This is an approximate demarcation, because the watershed between the Black Sea and the Adriatic basin is predominantly zonal (it changes over time depending on changes in hydrological conditions).
[32] https://www.voda.hr/sites/default/files/plan_upravljanja_vodnim_podrucjima_2016._-_2021.pdf
[33] https://www.voda.hr/sites/default/files/plan_upravljanja_vodnim_podrucjima_2016._-_2021.pdf

level of 15 to 20% is a strategic goal of water management, according to data from 2017 the losses on the national level are still present with a share of about 50%.[34]

In the Republic of Croatia there is a difference between public, local and individual water supply. Public water supply is performed by legal entities registered to provide public water supply activities (public water service providers). Local water supply means local water supply systems that were built in the seventies and eighties of the last century from the local community funds and at the time of construction had all the valid and necessary permits. In 2018, there were 133 public water service providers and 220 local water service providers were also registered.

The share of population connected to public sewerage systems is growing. In 2018, approximately 91,5% of the population was connected to public water supply, and approximately 1,47% to local water supply. [35]

Water for human consumption must meet the parameters for checking the compliance of water for human consumption stipulated by the Ordinance on compliance parameters, methods of analysis, monitoring and safety plans for water for human consumption and the ways of keeping the register of legal entities performing public water supply (OG 125/17). At the level of the Republic of Croatia, monitoring of the health safety of water for human consumption is carried out according to the Monitoring Plan adopted by the Minister responsible for health at the proposal of the Croatian Institute for Public Health (CIPH). The implementation of the Monitoring Plan is coordinated by the CIPH, and is carried out by the public health county institutes or the institute of City of Zagreb in the area of their local jurisdiction. A legal entity providing public water supply is obliged to ensure that water for human consumption delivered to users/consumers meets all prescribed parameters for conformity testing, ie meets the maximum permitted concentrations prescribed by the above-mentioned Ordinance.

According to publicly available information[36], surface water quality is significantly more favourable in the ADB than in the DBD, which mainly refers to smaller continental rivers. Groundwater quality is generally assessed as good, but as groundwater is extremely important for the needs of public water supply (almost 90% of affected water quantities), it is necessary to preserve not only their good quantitative but also chemical state.

Progress has been made in the area of municipal wastewater treatment, but not at a satisfactory pace. In 2016, about 150[37] wastewater treatment plants were active. In accordance with the Implementation Plan (revised) for Water Utility Directives, by 2023 the functionality of the treatment plant for 294 agglomerations is planned.

The Monitoring program for the quality of the sea and inland surface bathing waters[38] is regularly implemented in the area of seven coastal counties and individual local self-government units. According to that Program, the bathing season is the period from June 1 to September 15, and the monitoring of sea quality is performed from May 15 to September 30. Before each bathing season,

[34] https://www.voda.hr/sites/default/files/pdf_clanka/hv_99_2017_17-26_vouk-et-al.pdf
[35] https://www.hzjz.hr/wp-content/uploads/2019/07/IZVJE%C5%A0TAJ-O-ZDRAVSTVENOJ-ISPRAVNOSTI-VODE-ZA-LJUDSKU-POTRO%C5%A0NJU-U-REPUBLICI-HRVATSKOJ-ZA-2018_v1.pdf
[36] National report on the state of the environment in Croatia 2013-2016 (http://www.haop.hr/sites/default/files/uploads/dokumenti/06_integrirane/dokumenti/niso/IZVJ_OKOLIS_2013-2016.pdf)
[37] National report on the state of the environment in Croatia 2013-2016 (http://www.haop.hr/sites/default/files/uploads/dokumenti/06_integrirane/dokumenti/niso/IZVJ_OKOLIS_2013-2016.pdf)
[38] It is implemented in accordance with the Bathing Sea Quality Regulation (OG 73/08), which transposed the EU Bathing Water Quality Management Directive. (Directive of the European Parliament and of the Council concerning the management of bathing water quality 2006/7/EC)

the county defines sampling points. Water and sea quality monitoring is performed by authorized entities, i.e. county Public Health Institutes and authorized laboratories, and before the start of each bathing season the authorized entity prepares a testing calendar with the consent of the competent administrative body in the county. The assessment of the quality of sea and bathing water is determined on the basis of microbiological indicators: Escherichia coli and Intestinal enterococci, for which limit values are prescribed by the Bathing Sea Quality Regulation and the Bathing Water Quality Regulation.

The results of the bathing water and sea quality testing at each of the testing points included in the Monitoring program are available to the public in real time on the website of the MoESD.

Regarding quality of bathing water and sea among European Countries, Croatia is in a high fifth place with 95,6% of excellently rated test points, just behind Cyprus, Austria, Malta and Greece. [39]

Sustainable management of the Adriatic Sea, coast and islands is implemented through the implementation of documents within the Strategy for the Management of the Marine Environment and Coastal Area.

3.1.3 Waste management

The total amount of waste (production and municipal) in the Republic of Croatia is estimated at 5,5 million tons[40]. The amount of hazardous waste is around 175.000 tons, which is about 3% of the total waste generation.

From 2016 onwards, there has been a significant increase in the amount of production waste. Also was a slight increase in the amount of municipal waste in the observed period recorded.

The largest generators of waste in the Republic of Croatia are construction sector (23%) and households (23%).

The total amount of construction waste generated in 2019 is estimated at 1,37 million tons. The largest share in construction waste makes soil, stones and dredging waste (45,5%), followed by mixed construction waste and demolition waste (19,1%). Waste concrete, bricks, tiles and ceramics makes 16,1% of total construction waste, while metals and their alloys represent 13% and other types of waste by less than 7%.

The total amount of treated construction waste in 2019 was 1,06 million tons. The remaining unrecorded, about 300.000 tons, could refer to unreported data in the case of export, temporary storage, implementation of a procedure for which no permit has been obtained, eg for backfilling, or to waste dumped in the environment to illegal dumps.

Thus, the construction waste recovery rate for 2019 accounts to 67%. According to the Waste Framework Directive (2008/98/EU) target recycling rate for construction waste for 2020 is 70%.

The largest amounts of construction waste are generated in the City of Zagreb (23,7%), while in Zagreb County it is generated 8,3%, in Krapina - Zagorje County 1,7%, in Sisak-Moslavina County 2,7% and in Karlovac County 2,0%.

Hazardous waste in construction waste accounts for 1.9% (26.007 t).

[39] https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/assessments/state-of-bathing-water/european-bathing-water-quality-in-2019

[40] http://www.haop.hr/hr/tematska-podrucja/otpad-registri-oneciscavanja-i-ostali-sektorski-pritisci/gospodarenje-otpadom-10

In 2020, each citizen of RC generated 418 kg municipal waste (1.692.966t), which ranks Croatia among the countries with the lowest waste generation in the EU (the EU average is 492 kg per capita in 2018[41]).

The public service of collecting mixed municipal waste is performed by 196 companies. The coverage of the population by organized collection of municipal waste is 99%, and all municipalities and cities have organized collection and disposal of municipal waste.

In 2020, mixed municipal waste still accounts for the largest share in municipal waste (59%), thus the rate of separate collection in 2020 was 41%, which is 4% less than in the previous year[42].

Not all separately collected municipal waste is sent for recovery. Part of the separately collected waste ends up in landfills, where a certain amount may be prepared for recovery purposes.

In 2020, the municipal waste recovery rate increased by 4% compared to 2019, and it amounted to 25%. According to the Waste Framework Directive (2008/98/EU) target recycling rate for municipal waste for 2020 is 50%.

Table 3. Municipal waste management in Croatia in 2019

Generated	Separately collected	Recycled	Composted /anaerobic digestion	Energy recovery (R1)	Incineration (D10)	Landfilling	Other
1.692.966	694.160 t	580.552 t	93.422 t	2.819 t	5,3t	941.285 t	168.310t
	41%	34%	6%	0,17%	0,0003%	56%	10%

Source: MoESD[43]

In 2020, municipal waste disposal was recorded for 85 landfills.

Also, in 2018, two Waste Management Centers (in Istria County and Primorje-Gorski Kotar County) started operating, applying mechanical-biological waste treatment technology. During 2019, these centers received about 150.000 tons of municipal waste.[44]The construction of 9 more waste management centres is planned. [45]

Target for reduction of biodegradable municipal waste disposal still is not being achieved. Disposed quantities of biodegradable municipal waste in 2019 exceed by 300.992 t the target for 2016[46] stipulated by the Landfill Directive.

[41] Eurostat

[42] National Report on Municipal Waste 2020 (http://www.haop.hr/sites/default/files/uploads/inline-files/OTP_Izvje%C5%A1%C4%87e%20o%20komunalnom%20otpadu%20za%202020.%20godinu_7_10_2021.pdf)

[43] National Report on Municipal Waste 2020 (http://www.haop.hr/sites/default/files/uploads/inline-files/OTP_Izvje%C5%A1%C4%87e%20o%20komunalnom%20otpadu%20za%202020.%20godinu_7_10_2021.pdf))

[44] National Report on Municipal Waste 2020 (http://www.haop.hr/sites/default/files/uploads/inline-files/OTP_Izvje%C5%A1%C4%87e%20o%20komunalnom%20otpadu%20za%202020.%20godinu_7_10_2021.pdf)

[45] Implementing Decision of the Waste Management Plan of the Republic of Croatia (https://mzoe.gov.hr/UserDocsImages/UPRAVA-ZA-PROCJENU-UTJECAJA-NA-OKOLIS-ODRZIVO-GOSPODARENJE-OTPADOM/Sektor%20za%20odr%C5%BEivo%20gospodarenje%20otpadom/Ostalo/Odluka%20o%20implementaciji%20PGO%20RH%20%202017_2022%20prilog.pdf)

[46] 378.088 tons

3.1.3.1 Medical waste

Regarding the medical waste (radioactive medical waste excluded), in 2018 generated amount was 5.262 t, out of which 4.105 t was hazardous medical waste and 1.157 t of non-hazardous medical waste. About 5 t of medical waste originates from households, while the largest share of medical waste originates from the health care activities, especially hospitals.[47]

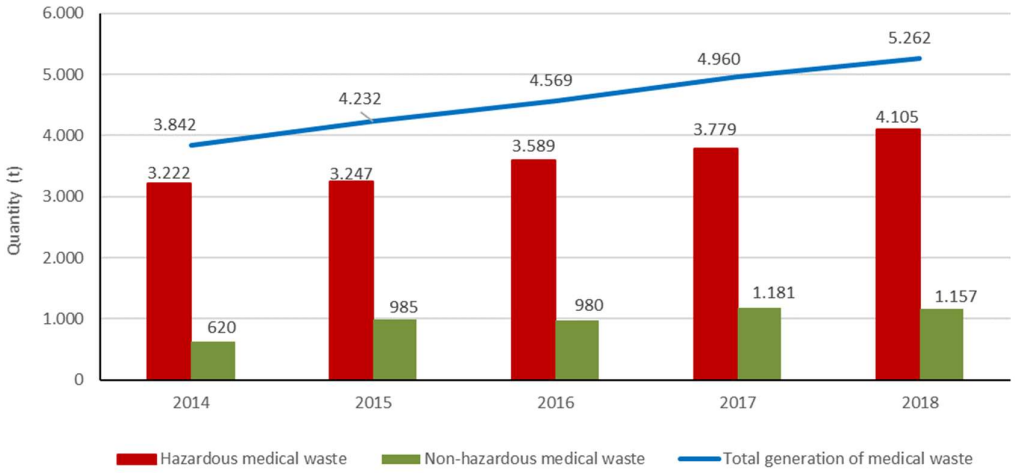


Figure 12. Generated medical waste in the Republic of Croatia for the period 2014-2018[48]

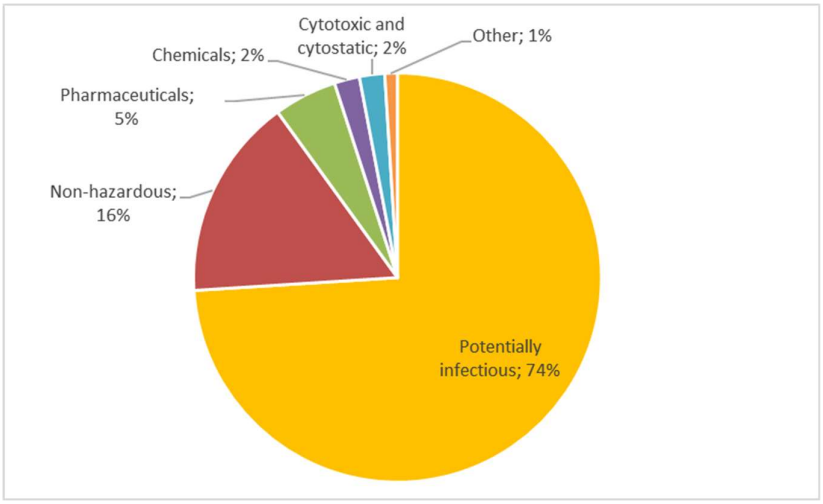


Figure 13. Share of medical waste types produced in 2018[49]

Croatia does not have waste energy recovery plant nor waste incineration plant medical waste is primarily sterilized and then sent to landfills as non-hazardous waste or exported from the country. In 2018 most of the medical waste (about 90%) is treated by autoclaving and then sent to landfills as

[47] National report on medical waste (http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_2Pregled%20podataka%20o%20medicinskom%20otpadu%20u%202018_FINAL%20-%20WEB%201.pdf); National Report on Municipal Waste 2018 (http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/komunalni/OTP_Izvje%C5%A1%C4%87e%20o%20komunalnom%20otpadu_2018%20FV_0.pdf)

[48] Source: MoESD

[49] Source: MoESD

non-hazardous waste. Minor quantities of medical waste are exported out of the country. In 2018 six companies exported 177 t of medical waste from Croatia (to Austria, Germany and Italy). Following waste types were exported: hazardous medical waste potentially infected, hazardous and non-hazardous chemicals, cytotoxic and cytostatic, pharmaceuticals[50].

Waste arising from application of COVID-19 measures (protective gloves, masks, etc.) originating from households is considered to be municipal waste and it is handled in line with the guidelines available on the official government website [51]. According to guidelines this type of waste has to be disposed of in disposable garbage bags. Such a bag should then be placed in another bag, tied tightly, kept separate from other waste and should be set aside for at least 72 hours before disposing it in a container for mixed municipal waste. Other types of household waste should be disposed of as usual – it is not necessary to ensure special bags and can be disposed off as produced.

Waste potentially infected or infected by COVID-19 that is generated in healthcare facilities have to be disposed in separate containers, ensured for infected medical waste, and treated in the same manner as other infectious waste (autoclaving and disposing on landfills or exporting out of the country for energy recovery or incineration). This way of handling medical waste is defined in guidelines available on the official government website [52]

Every health care facility, as a producer of medical waste, must have person responsible for ensuring that medical waste management is conducted in line with legislation, to ensure education of personnel on how to properly handle medical waste, keep records on waste management, etc.

Croatia has a long-standing practice and a well-developed legislative framework for the management of both non-hazardous and hazardous waste (it is in line with EU legislation). The generated waste, including the COVID-19 medical waste, may only be handed over to companies that have the appropriate waste management permit (the permit is issued by the MoESD or counties offices depending on the type of waste management activity and whether waste is hazardous or non-hazardous).

Croatia implemented the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). This ensured that the transport of dangerous goods is performed in a such a manner that necessary measures to prevent an accident, or to minimize the consequences of an accident are ensured. Persons transporting dangerous goods (including waste) are obliged to take actions in case of any accident during transportation. Detailed written instructions on how to act in the case of an accident must be present in the vehicle when transporting dangerous goods.

Also, Croatia ratified Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal[53]. Appling and respecting requirements defined by this Convention ensure export and import of waste to be performed at the highest level regarding the environmental and health safety.

Additionally, according to the Ordinance on Environmental Pollution Register (OG No 87/15) companies producing annually 500 kg and more of hazardous waste and/or 20 tonnes and more of

[50] National report on medical waste (http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_2Pregled%20podataka%20o%20medicinskom%20otpadu%20u%202018_FINAL%20-%20WEB%201.pdf);

[51] https://www.koronavirus.hr/preporuke-za-kucanstva-i-ostale-zatvorene-prostore/276

[52] https://www.koronavirus.hr/preporuka-postupanja-u-domovima-zdravlja/314

[53] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel 1989), Published in OG–IT No. 3/94 (amendment to Basel Convention - OG-IT No. 7/19)

non-hazardous, are obliged to report annual data on waste amounts and waste handling into the database Environmental Pollution Register (EPR)[54], maintained by MoESD. Waste producers report data on registration form NO (Registration form for producer/holder of produced waste) via Internet by means of user name and password that are assigned by the MoESD. Reporting form for waste generator requires view of the chain of movement of waste, from the place of generation to the place of waste collection or place of final treatment.

Also, all waste management companies (e.g. municipal waste collectors, industrial waste collectors, recycling yards and waste treatment companies) regardless the annual waste amounts they manage are obliged to report data into the EPR database.

In the Republic of Croatia, about 50 m^3 of spent ionizing radiation sources and other used radioactive substances with a total activity of approximately 16 TBq are temporarily stored. Radiation sources and radioactive substances are used in medicine (nuclear medicine and radiotherapy), industry (smoke detectors, lightning rods), and in research. Medical radioactive waste falls under low level radioactive waste.[55] Low level radioactive waste makes 90% of total radioactive waste volume, while share in radioactivity accounts to 1%.

Currently, there is no permanent disposal site for low and intermediate level of radioactive waste. The majority of radioactive waste is in the temporary storage of the Ruđer Bošković Institute (RBI) and Institute for Medical Research (IMR) in Zagreb. The only active temporary storage of radioactive waste is in the RBI.

3.1.4 Noise

Environmental noise is one of the environmental pressures with a potentially harmful effect on human health.

The body responsible for the implementation of noise protection measures in the Republic of Croatia is the Ministry of Health. Measures taken to avoid, prevent or reduce adverse effects on human health caused by environmental noise, including noise interference, are: determination of noise exposure by making noise maps based on methods for assessing environmental noise; ensuring the availability of public information on environmental noise; and development and adoption of action plans. In that way, the provisions of Directive 2002/49/ C on the assessment and management of environmental noise, the Noise Protection Act[56] and the Ordinance on the preparation and content of noise maps and action plans and on the calculation of permissible noise indicators[57] are implemented.

Strategic noise maps and action plans in accordance with the Noise Protection Act are an integral part of the Environmental Information System of the Republic of Croatia at the MoESD.

The development of strategic noise maps and noise management action plans has a key role in protection of the population from excessive noise exposure, especially in parts of settlements with high-density road transport, rail transport, airports and industrial plants and facilities.

In accordance with the Noise Protection Act, strategic noise maps and action plans are prepared for populated areas with more than 100.000 inhabitants, for main roads with more than 3.000.000 vehicle passages per year, for main railways with more than 30.000 train passages per year, and major airports with more than 50.000 operations (take-offs and landings) per year.

[54] http://roo.azo.hr/
[55] http://www.nemis.hr/index.php/radioaktivni-otpad/kolicine-i-aktivnosti-radioaktivnog-otpada-u-hrvatskoj.html
[56] OG 30/09, 55/13, 153/13, 41/16 i 114/18
[57] OG 75/09, 60/16, 117/18

According to publicly available data on population exposure to environmental noise [58], one of the main sources of noise is road traffic. The share of exposed population to noise greater than 55 dB (A) varies from 33% to 21% in the 4 largest cities (Zagreb, Osijek, Rijeka, Split), while significantly less inhabitants are exposed to noise greater than 65 dB (A).

3.1.5 Nature protection

In Croatia, a legislative and institutional framework for nature protection has been established, as a basis for the implementation of activities for the conservation of all components of biodiversity. The state of nature is determined to a certain extent (inventory and mapping), monitored and assessed (red lists), and nature conservation is ensured by the implementation of appropriate mechanisms and measures for nature protection. Biodiversity data are evaluated, organized and made publicly available through the Nature Protection Information System at the MoESD. The starting point for targeted species protection is their legal protection, which also enables the regulation of international trade in endangered species. The oldest mechanism for biodiversity conservation is the protection of the area and includes the declaration of certain parts of nature as protected, as well as appropriate management. The Ecological Network of the Republic of Croatia (Natura 2000) was proclaimed in 2013, and it covers 36,7% of the land territory and 1,.4% of the territorial sea and inland waters. It consists of 781 areas; that is, 743 species conservation areas and habitat types and 38 bird conservation areas.

The conservation of the target species and habitat types of the ecological network is primarily ensured by the implementation of the procedure for assessing the acceptability of plans, programs and interventions that may have a significant impact on them. Biodiversity conservation is also ensured by integrating nature protection measures into natural resource management plans and spatial plans. But a significant number of species are still endangered.

Croatia is characterized by a great diversity of species and habitats.

Through the development of a new map of terrestrial non-forest habitats, 155 habitat types were mapped in 58% of the territory of Croatia. Cultivated non-forest areas and habitats with weed and ruderal vegetation are non-forest habitat type covering the largest area of 24%. Habitats are still largely preserved, and the main threats are human impacts and disturbances and changes in agricultural practices that have resulted in the succession and reduction of the area of certain habitat types.

in Croatia, 40.000 species have been recorded, most of them (about 25.000) invertebrates, but it is estimated that 50.000 to 100.000 are present. Every year, scientists record, discover and describe new species and subspecies. Such findings are rarer when it comes to fish, amphibians and reptiles, birds and mammals, as well as vascular flora as these groups are relatively well known. On the other hand, groups such as algae, mosses, fungi, and invertebrates are very poorly researched. This is supported by the fact that every year several dozen new species of invertebrates are identified for the fauna of Croatia, of which a significant number are described as new species for science. The wild species richness of Croatia lies not only in their diversity but also in their endemicity. The main centers of endemic flora are the mountains Velebit and Biokovo, while the endemic fauna is most present in underground habitats (cave invertebrates, human fish), on islands (lizards, snails) and in karst rivers of the Adriatic basin (gulls and little heads).

[58] National report on the state of the environment in Croatia 2013-2016
(http://www.haop.hr/sites/default/files/uploads/dokumenti/06_integrirane/dokumenti/niso/IZVJ_OKOLIS_2013-2016.pdf)

The Nature Protection Act[59] defines 9 national categories of protection. According to the Register of Protected Areas in the Republic of Croatia, a total of 409 protected areas in various categories are protected. Data from the Register of Protected Areas are public and available on the web portal of the Nature Protection Information System at MoESD[60].

Today, protected areas cover 8,61% of the total area of the Republic of Croatia, i.e. 12,32% of the land territory and 1,95% of the territorial sea. The largest part of the protected area are nature parks (4,90% of the total state territory).

Table 4. Categories of protected areas according to the Nature Protection Act

Category	Number of protected areas	Surface (km^2)	% of national surface	Management level	Declaration
Strict Reserve	2	24,19	0,03	State and county	Government
National Park	8	979,63	1,10	State	Croatian Parliament
Special Reserve	77	400,11	0,45	State, county, municipality, city	Government
Nature Park	11	4.320,48	4,55	State	Croatian Parliament
Regional Park	2	1.025,56	1,16	County	Representative body of the competent regional self-government unit
Monument of nature	79	2,04	0,002	County and municipality	Representative body of the competent regional self-government unit
Significant Landscape	83	1.387,61	1,35	County and municipality	Representative body of the competent regional self-government unit
Park - Forest	27	29,62	0,03	County, municipality and city	Representative body of the competent regional self-government unit
Monument of park architecture	120	10,01	0,01	County	Representative body of the competent regional self-government unit
Area of protected areas within other protected areas [61]*		593,23	0,67		
Total	**409**	**7.585,97**	**8,61**		

Some areas in City of Zagreb, Zagreb County and Krapina – Zagorje County fall within the Ecological Network of the Republic of Croatia (Natura 2000) and nature protected areas.

[59] OG 80/13, 15/18, 14/19, 127/19
[60] http://www.bioportal.hr/gis/
[61] Refers to protected areas that are within another, larger protected area, and their surfaces overlap

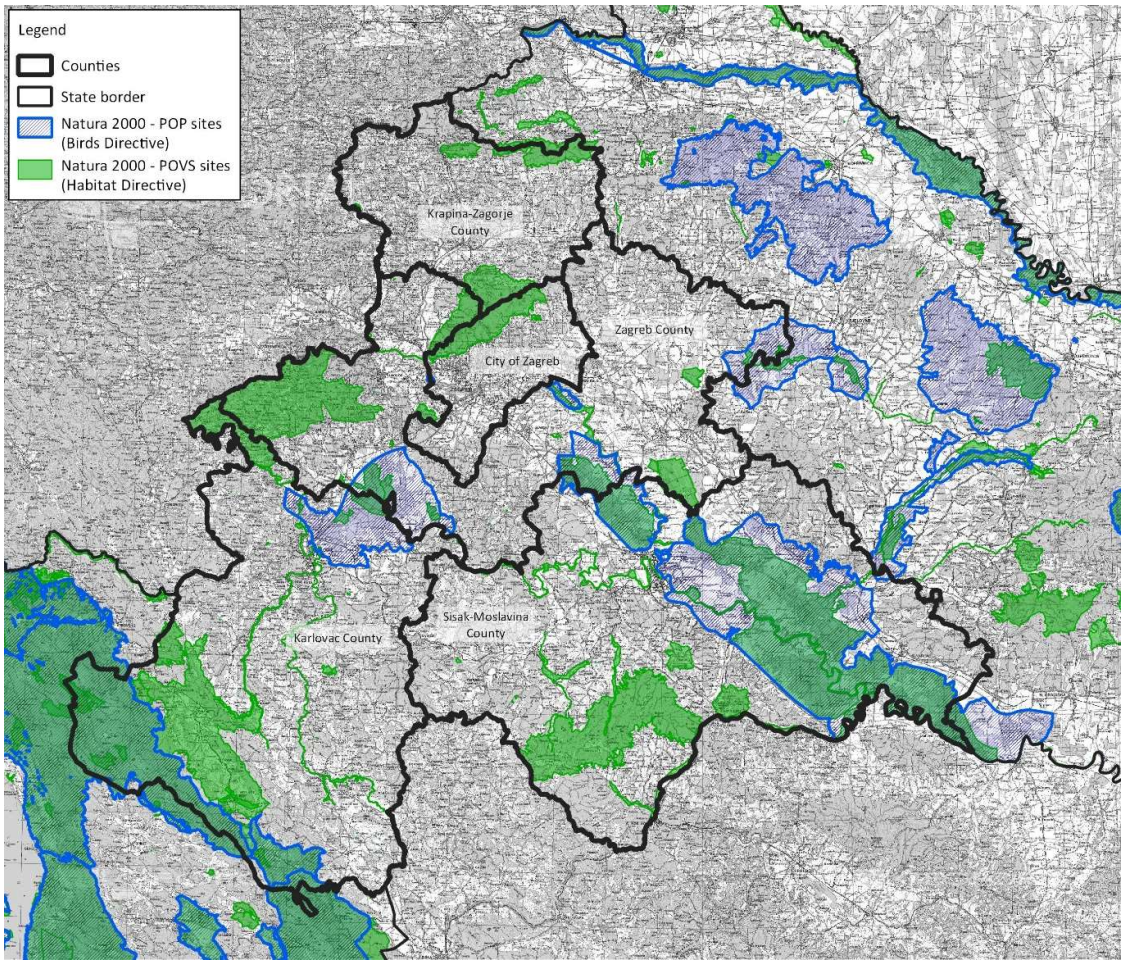


Figure 14. Ecological Network for Component 2 (Natura 2000)[62]

Detailed map of Ecological Network for Component 1 (Natura 2000) is given in .

Table 5. List of nature protected areas in the City of Zagreb, Zagreb County and Krapina –Zagorje County

County	Number of nature protected areas	Total protected surface	Type of nature protected area	Nature protected areas
City of Zagreb	32	10420 ha (16,249%)	Special reserve	9 – RAUCHOVA LUGARNICA - DESNA TRNAVA, TUSTI VRH - KREMENJAK, STUPNIČKI LUG, PUŠINJAK - GORŠČICA, BLIZNEC - ŠUMAREV GROB, MIKULIĆ POTOK - VRABEČKA GORA, BABJI ZUB - PONIKVE, GRAČEC - LUKOVICA - REBAR, MARKOVČAK - BISTRA
			Nature park	1 – MEDVEDNICA
			Monument of nature,	1 - VETERNICA
			Significant landscape	3 - GORANEC, SAVICA, LIPA NA MEDVEDNICI
			Monument of park architecture	18 - ZAGREB - MAMUTOVAC II, ZAGREB - VRT U PRILAZU GJURE DEŽELIĆA, ZAGREB - PARK UZ DVORAC JUNKOVIĆ, ZAGREB - PARK OPATOVINA, ZAGREB - PARK U JURJEVSKOJ 30, ZAGREB - PARK ZRINJEVAC, ZAGREB - PARK MAKSIMIR, ZAGREB - PARK KRALJA PETRA SVAČIĆA,

[62] Source: MoESD, Nature Protection Information System at the MoESD (Bioportal)
http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/ostalo/OTP_Pregled_gradjevni_2018.pdf)

County	Number of nature protected areas	Total protected surface	Type of nature protected area	Nature protected areas
				ZAGREB - LEUSTEKOV PARK, BOTANIČKI VRT FARMACEUTSKO-BIOKEMIJSKOG FAKULTETA, ZAGREB - PARK KRALJA PETRA KREŠIMIRA IV., ZAGREB - PERIVOJ SRPANJSKIH ŽRTAVA, BOTANIČKI VRT PRIRODOSLOVNO-MATEMATIČKOG FAKULTETA, ZAGREB - PARK KRALJA TOMISLAVA, ZAGREB - PARK JOSIPA JURJA STROSSMAYERA, ZAGREB - PARK RIBNJAK, ZAGREB - PARK U JURJEVSKOJ 27, ZAGREB - MALLINOV PARK
Zagreb County	34	37878,59 ha (12,379%)	Special reserve	12 - JASTREBARSKI LUGOVI, CRET DUBRAVICA, ČESMA, JAPETIĆ, BREŽULJAK KOD SMEROVIŠĆA, NOVAKUŠA, CRNA MLAKA, STUPNIČKI LUG, SAVA - STRMEC, VAROŠKI LUG - ŠUMA, VAROŠKI LUG, MARKOVČAK - BISTRA
			Nature park	3 - LONJSKO POLJE, ŽUMBERAK - SAMOBORSKO GORJE, MEDVEDNICA
			Monument of nature,	3 - HRAST U RAKITOVCU, GRGOSOVA SPILJA, TISA U ŠUPLJAKU
			Significant landscape	4 - ODRANSKO POLJE, SLAPNICA, TUROPOLJSKI LUG, ZELINSKA GLAVA
			Forest park	3 - TEPEC-PALAČNIK, STRAŽNIK, OKIĆ-GRAD
			Monument of park architecture	9 - LUŽNICA - PARK OKO DVORCA, SAMOBOR - TISA, SAMOBOR - PARK U LANGOVOJ 39, SAMOBOR - PARK BISTRAC, SAMOBOR - PARK MOJMIR, LUG SAMOBORSKI - PARK OKO DVORCA, BOŽJAKOVINA - PARK OKO DVORCA, JASTREBARSKO - PARK UZ DVORAC, GORNJA BISTRA - PARK OKO DVORCA
Krapina – Zagorje County	22	6017,61 ha (4,896 %)	Special reserve	3 - RAUCHOVA LUGARNICA - DESNA TRNAVA, PUŠINJAK - GORŠČICA, MARKOVČAK - BISTRA
			Nature park	1 - MEDVEDNICA
			Monument of nature,	4 - TISA NA HORVATOVIM STUBAMA, GUPČEVA LIPA, HRAST GALŽENJAK, HUŠNJAKOVO
			Significant landscape	4 - ZELENJAK - RISVIČKA I CESARSKA GORA, LIPA NA MEDVEDNICI, SUTINSKE TOPLICE, ZELINSKA GLAVA
			Monument of park architecture	10 - BEDEKOVČINA GORNJA - PARK OKO DVORCA, DESINIĆ - LIPA, KLOKOVEC - PARK OKO DVORCA, MARIJA BISTRICA - PARK UZ DVORAC, MIRKOVEC - PARK UZ DVORAC, STUBIČKI GOLUBOVEC - PARK UZ DVORAC, MILJANA - PARK OKO DVORCA, BEŽANEC - PARK I DRVORED UZ DVORAC, SELNICA - PARK OKO DVORCA, OROSLAVJE DONJE - PARK OKO DVORCA
Sisak-Moslavina County	13	92.253,64 (20,656%))	Special reserve	4 – ĐOL DRAŽIBLATO, RAKITA, KRAPJE ĐOL, CRET ĐON MOČVAR
			Nature Park	1 – LONJSKO POLJE
			Regional Park	1 – MOSLAVAČKA GORA
			Significant landscape	5 – SUNJSKO POLJE, ODRANSKO POLJE, KOTAR-STARI GAJ, PETROVA GORA, TUROPOLJSKI LUG
			Forest Park	1 – BRDO DJED
			Monument of park architecture	1 – PETRINJA-STROSSMAYEROVO ŠETALIŠTE
Karlovac County	16	14.235,02 ha (3,926%))	Strict reserve	1 – BIJELE I SAMARSKE STIJENE
			National Park	1 – PLITVIČKA JEZERA
			Special reserve	2 – CRET BANSKI MORAVCI, CRNA MLAKA
			Nature Park	1 – ŽUMBERAK-SAMOGORSKO GORJE
			Monument of nature	2 – VRLOVKA, VISIBABA-SOLITERNA STIJENA
			Significant landscape	5 – SLUNJČICA, BARAĆEVE ŠPILJE, BILJEG, KLEK, PETROVA GORA
			Forest Park	1 – OZALJ GRAD
			Monument of park architecture	3 – BOSILJEVO-PARK UZ STARI GRAD, KARLOVAC-VRBANIĆEV PERIVOJ, KARLOVAC-MARMONTOVA ALEJA

Source: MoESD, http://www.bioportal.hr/gis/, 23/11/2021

3.1.6 Climate change

Climate change in Croatia could significantly increase the frequency and severity of weather-related disasters, which occur more often than any other type of disaster in the country. Looking forward, all across Croatia, decreasing precipitation and rising average temperature are predicted.

The increase of mean annual air temperature in the 20th century varied between 0,02°C per 10 years (Gospić) and 0,07°C per 10 years (Zagreb). The frequency of dry spells—that is, the number of consecutive dry days —has also risen in the past years. Of the 10 warmest years since the beginning of the 20th century, 7 were recorded after the year 2000, with 2016 being the warmest year ever recorded. Dry spells contribute to the risk of wildfires, which in recent years have been particularly dangerous along the Adriatic coast; in 2007 alone, for example 2.700 wildfires were reported. Increasing temperatures and declining precipitation bring an increased risk of droughts, which adds to the risk of forest fires.[63]

The impact of climate change on plant and animal species is increasingly pronounced both in Croatia and globally. Extreme climatic conditions that cause more frequent fires, storms and icebreaks are the key causes of the growing trend of wood damage. High temperatures and long dry periods cause shortening of the vegetation period of ripening of certain economically important crops, which can result in reduced yields. In addition to this, climate change can be unquestionably associated with the occurrence of non-indigenous species, some of which are invasive as well as the occurrence of disease. Changes in climatic parameters will have different implications for individual tourist destinations, i.e. they can be both positive and negative. Their positive impact is present through the extension of the tourist season, while the negative impact, especially due to high temperatures and increased UV radiation, is associated with a decrease in tourist demand in the summer months. [64]

Average values of the share of greenhouse gases by individual sectors show that the Energy sector still has the largest contribution to total greenhouse gas emissions in the Republic of Croatia (around 70%). It is followed by Agriculture with about 11%, Industrial processes and product use with about 11% and Waste with about 8%.

The most common greenhouse gas is carbon dioxide (CO_2) with a share of about 75% of total emissions. It is followed by methane (CH_4) with a share of about 16%, nitrous oxide (N_2O) with a share of about 7% and fluorocarbons, perfluorocarbons and sulphur hexafluoride with about 2% share in greenhouse gas emissions[65].

In 2013, Croatia joined the greenhouse gas emissions trading system, which is one of the mechanisms for reducing greenhouse gas emissions, in which economic operators are enabled to reduce greenhouse gas emissions by implementing cost-effective measures.

In the period from 2008 to 2012, Croatia met the individual target set by the Kyoto Protocol to reduce greenhouse gas emissions by 5% compared to 1990. The stated obligations that Croatia has undertaken with the Kyoto Protocol have been fulfilled, both due to the implementation of emission reduction measures and due to the decline in economic activities caused by the economic crisis.

In accordance with the amendments to the Kyoto Protocol from Doha, which at the European Union level stipulate the obligation to reduce emissions by 20% by 2020 compared to 1990, Croatia is

[63] Project appraisal document
[64] National report on the state of the environment in Croatia 2013-2016 (http://www.haop.hr/sites/default/files/uploads/dokumenti/06_integrirane/dokumenti/niso/IZVJ_OKOLIS_2013-2016.pdf)
[65] National inventory report 2019 (http://www.haop.hr/sites/default/files/uploads/dokumenti/012_klima/dostava_podataka/Izvjesca/NIR_2019.pdf)

implementing measures and activities, the results of which so far indicate that the obligation to reduce greenhouse gas emissions will be met.

3.1.7 Cultural heritage

Croatia is the country with the among largest number of protected cultural phenomena in Europe with 14 Intangible Cultural Heritages added to the UNESCO list.

The six most important parts of Croatian cultural heritage are - the Old City of Dubrovnik, a historic complex in Split with Diocletian's Palace, the historic town of Trogir, Euphrasius' basilica in Poreč, the Cathedral of St. James in Šibenik and Starogradsko polje on the island of Hvar, all protected as World Heritage Sites by UNESCO. In addition to these, Croatia has 340 protected historic entities and a whole series of individual historic buildings, churches and chapels, fortresses and castles, manors and palaces and archaeological sites. Croatia, in its many museums, holds priceless and diverse cultural treasures, and there are many festivals and events, from music and film events to folklore events and carnivals[66].

A review of the Register of Cultural Heritage of the Croatia showed that certain areas in the City of Zagreb, as well as in Zagreb County, Krapina-Zagorje County, Karlovac County and Sisak-MOslavina County are protected cultural and historical entity.

Table 6. List of protected cultural and historical entity in the City of Zagreb, Zagreb County, Krapina-Zagorje County, Karlovac County and Sisak-Moslavina County[67]

CITY OF ZAGREB			
Number	**Register number**	**Name of the cultural heritage**	**Adress**
1	Z-2951	Kulturno-povijesna cjelina Zagrebačkog Velesajma	Zagreb
2	Z-2288	Kulturno - povijesna cjelina Pupinovo naselje	Zagreb
3	Z-2286	Kulturno-povijesna cjelina Studentski dom "Stjepan Radić"	Zagreb
4	Z-2285	Kulturno-povijesna cjelina "Pionirski grad" (Grad mladih)	Zagreb
5	Z-2284	Kulturnopovijesna cjelina Brodarski institut	Zagreb
6	Z-2168	Etnološko područje Novoselečki vinogradi	Zagreb
7	Z-2167	Etnološko područje Oporovečki vinogradi	Zagreb
8	Z-2166	Etnološko područje Severi	Zagreb
9	Z-2164	Kulturno-povijesna cjelina naselja Demerje	Demerje
10	Z-2161	Kulturno-povijesna cjelina naselja Glavničica	Glavničica
11	Z-1550	Kolonija gradskih kuća "Mali stanovi za invalide i izbjeglice iz Istre"	Zagreb
12	Z-1549	Kolonija gradskih kuća na Ciglani	Zagreb
13	Z-1547	Kulturno - povijesna cjelina naselja Čučerje	Zagreb
14	Z-1544	Ansambl gradskih vila	Zagreb
15	Z-1546	Kulturno-povijesna cjelina naselja Kašina	Kašina
16	Z-1545	Kulturno povijesna cjelina naselja Vugrovec	Vugrovec Donji
17	Z-1541	Kulturno - povijesna cjelina "Gogoljin brijeg"	Zagreb
18	Z-1537	Kulturno - povijesna cjelina Gornje Vrapče	Zagreb
19	Z-1536	Zelena potkova	Zagreb
20	Z-1534	Gradska klaonica i stočna tržnica	Zagreb
21	Z-1531	Aerodrom Borongaj	Zagreb
22	Z-1530	Kulturno - povijesna cjelina "Željeznička kolonija"	Zagreb
23	Z-1526	Kompleks groblja Mirogoj	Zagreb
24	Z-1535	Zakladni blok	Zagreb
25	Z-1540	Kompleks nekadašnje Strojarnice državne željeznice (kasnije TŽV Gredelj)	Zagreb
26	Z-1525	Kulturno-povijesna cjelina grada Zagreba	Zagreb
27	Z-1527	Mjesto povijesnih događaja -kompleks šume Dotrščina	Zagreb
28	Z-1528	Park Maksimir	Zagreb

[66] https://www.insightcruises.com/itinerary_g/ny01_images/Split/Croatian-Cultural-Heritage-2011.pdf

[67] All listed protected cultural and historical entities have legal status of protected cultural heritage except of: Rezidencijalni kompleks s park šumom na Pantovčaku, Park skulptura Jakovlje, Spomen- park palim borcima NOB-a, which are registred as preventively protected cultural heritage. An overview of the protected cultural and historical entities is available in Register of the Ministry of Culture and Media: https://registar.kulturnadobra.hr/

29	Z-1529	Kulturno - povijesna cjelina Podsuseda	Zagreb
30	Z-2158	Kulturno-povijesna cjelina naselja Cerje	Cerje
31	Z-2160	Kulturno - povijesna cjelina naselja Resnik	Zagreb
32	Z-1543	Kulturno - povijesna cjelina Cvjetno naselje	Zagreb
33	Z-2162	Kulturno-povijesna cjelina naselja Moravče	Moravče
34	Z-2159	Kulturno-povijesna cjelina naselja Šašinovec	Šašinovec
35	Z-1542	Kulturno-povijesna cjelina - "Prva hrvatska štedionica"	Zagreb
36	P-5463	Rezidencijalni kompleks s park šumom na Pantovčaku	Zagreb
Zagreb County			
Number	**Register number**	**Name of the cultural heritage**	**Adress**
1	Z-3833	Kulturno - povijesna cjelina naselja Donja Pušća	Donja Pušća
2	Z-6402	Kulturnopovijesna cjelina Sveta Nedelja	Sveta Nedelja
3	Z-3532	Kulturno - povijesna cjelina Sveti Ivan Zelina	Sveti Ivan Zelina
4	Z-3258	Ruralna cjelina	Gustelnica
5	Z-4188	Kulturno-povijesna cjelina Velike Gorice	Velika Gorica
6	Z-4000	Kulturno - povijesna cjelina Velika Mlaka	Velika Mlaka
7	Z-3533	Kulturno - povijesna cjelina Vrbovec	Vrbovec
8	Z-2709	Kulturno-povijesna cjelina Ivanić-Grada	Ivanić-Grad
9	Z-2629	Kulturno-povijesna urbanistička cjelina Jastrebarsko	Jastrebarsko
10	Z-3650	Kulturno - povijesna cjelina Krašić	Krašić
11	Z-3648	Kulturno - povijesna cjelina naselja Križ	Križ
12	Z-4467	Kulturno-povijesna cjelina Samobor	Samobor
13	Z-5257	Zaseoci Brezovac i Pavkovići	Brezovac Žumberački
14	Z-5627	Kulturno-povijesna cjelina Marija Gorica	Marija Gorica
15	Z-6139	Kulturno-povijesna cjelina Bolč	Bolč
16	Z-6120	Kulturno - povijesna cjelina Bedenica	Bedenica
17	P-5506	Park skulptura Jakovlje	Jakovlje,
18	Z-6416	Kulturnopovijesna ruralna cjelina Slavetić	Slavetić
19	Z-7006	Kulturnopovijesna cjelina naselja Dugo Selo	Dugo Selo
20	Z-7205	Kulturnopovijesna cjelina Kraljev Vrh	Kraljev Vrh
21	P-6285	Spomen- park palim borcima NOB-a	Oborovo,
Krapina-Zagorje County			
Number	**Register number**	**Name of the cultural heritage**	**Adress**
1	Z-3036	Kulturno-povijesna cjelina Luči Breg	Podgorje Bističko
2	Z-4803	Kulturno-povijesna cjelina grada Pregrada	Pregrada
3	Z-3205	Kulturno - povijesna cjelina Hrašćina	Hrašćina
4	Z-3865	Park skulptura Forma Prima u šumi Josipovac	Krapina
5	Z-3072	Dvor Veliki Tabor	Hum Košnički
6	Z-5301	Muzej "Staro selo"	Kumrovec
7	Z-4182	Kulturno-povijesna cjelina grada Krapine	Krapina
8	Z-4662	Kulturno - povijesna cjelina grada Donje Stubice	Donja Stubica
9	Z-4905	Kulturno-povijesna cjelina grada Klanjca	Klanjec
10	Z-6130	Kulturno-povijesna cjelina grada Zlatara	Zlatar
11	Z-6747	Kulturnopovijesna cjelina Svetog Križa Začretja	Sveti Križ Začretje
12	Z-6832	Kulturnopovijesna cjelina Marije Bistrice	Marija Bistrica
Sisak-Moslavina County			
Number	**Register number**	**Name of the cultural heritage**	**Adress**
1	Z-5330	Kulturno-povijesna cjelina grada Hrvatska Kostajnica	Hrvatska Kostajnica
2	Z-4749	Povijesna seoska cjelina naselja Krapje	Krapje,
3	Z-3843	Povijesna seoska cjelina naselja Čigoč	Čigoč
4	Z-4135	Povijesna seoska cjelina naselja Kratečko	Kratečko
5	Z-3410	Kulturno - povijesna cjelina grada Siska	Sisak
6	Z-3769	Povijesna seoska cjelina Mužilovčica	Mužilovčica
7	Z-4136	Kulturno - povijesna cjelina grada Topusko	Topusko
8	Z-2919	Kulturno-povijesna cjelina grada Gline	Glina
9	Z-4134	Povijesno seosko naselje Drenov Bok	Drenov Bok
10	Z-3411	Spomen područje	Jasenovac
11	Z-3386	Sedam tradicijskih okućnica	Letovanić,
12	Z-2122	Kulturno-povijesna cjelina grada Petrinje	Petrinja,
13	Z-7329	Spomen mjesta stradanja žrtava fašističkog terora u sklopu ustaškog koncentracijskog logora Jasenovac	Jasenovac,
14	Z-5728	Povijesna seoska cjelina naselja Stara Subocka	Stara Subocka
15	Z-5575	Kulturno-povijesna cjelina naselja Suvoj	Suvoj,
16	Z-5700	Povijesna seoska cjelina naselja Bok Palanječki	Bok Palanječki
17	Z-5733	Park skulptura nastalih u sklopu Kolonije likovnih umjetnika Željezara Sisak postavljenih u javnom prostoru naselja Caprag	Sisak,
18	Z-6738	Tvornički kompleks Segestica	Sisak,

19	Z-7299	Povijesna seoska cjelina naselja Lonja	Lonja
20	P-6190	Skupina povijesnih i tradicijskih građevina u naselju Sunja	Sunja
Karlovac County			
Number	**Register number**	**Name of the cultural heritage**	**Adress**
1	Z-3922	Kulturno-povijesna ruralna cjelina Rastoke	Rastoke,
2	Z-3173	Kulturno - povijesna cjelina grada Slunja	Slunj
3	Z-287	Etnopark Ozalj	Ozalj
4	Z-2993	Kulturno-povijesna cjelina grada Karlovca	Karlovac
5	Z-3170	Kulturno - povijesna cjelina grada Duge Rese	Duga Resa
6	Z-3412	Kulturno-povijesna cjelina ulice Rakovac	Karlovac,
7	Z-3881	Kulturno-povijesna ruralna cjelina Donji Mrzljaki	Mrzljaki,
8	Z-1731	Kulturno-povijesna cjelina grada Ogulina	Ogulin,
9	Z-4807	Kulturno-povijesna ruralna cjelina Orljak	Rebrovići
10	P-6160	Židovsko groblje	Karlovac,
11	P-6439	Kulturno-povijesna cjelina naselja Modruš	Modruš

Source: Cultural Heritage Register, Ministry of Culture and Media, 23 November 2021

3.2 Social baseline and relevant potential issues

3.2.1 General Information on Administrative division

With a surface area of 56.594 km², Croatia is 18th among the European Union countries according to size. In terms of relief and climate, it is extremely diverse. The territory includes extensive plains in the continental region between the Rivers Drava and Sava (Slavonia), mountainous areas in the centre (Lika and Gorski Kotar), and in the west and south, a long, indented, sunny coastline with over a thousand islands (Istria, Kvarner and Dalmatia).[68]

Figure 15. Geographic map of Croatia [69]

The present administrative territorial division of the country was introduced in 1997 by Act on Counties, Cities and Municipalities in Republic of Croatia[70], when the 1992 division, that beside counties and municipalities consisted also districts, was changed.

The administrative/territorial division of Croatia, the first level, are the 20 counties and one city-county. Territorial division into counties is one of the historical features of the Republic of Croatia. According to some sources, counties were for the first time mentioned in the 10th century. On the

[68] http://croatia.eu/index.php?view=article&lang=2&id=6
[69] http://croatia.eu/index.php?view=article&lang=2&id=6
[70] OG 10/97

lower level there are 428 municipalities and 128 cities. The City of Zagreb has a special status of a city and county. Smaller administrative territorial units within municipalities/cities are settlements (Figure 16).[71]

Figure 16. County division of Croatia[72]

The capital and the largest city of the Republic of Croatia is Zagreb. It is located in the northwest of the country, along the Sava River, and at the southern slopes of the Medvednica mountain. It lies at an elevation of approximately 122 m (400 ft) above sea level.

Regarding Nomenclature of Territorial Units for Statistics (NUTS 2) which are used for collecting statistical data in EU and also for implementation of Cohesion policy, in 2019 the government launched changes to the, dividing Croatia into four statistical non-administrative units which will improve regional aid allocation and ensure better terms for the absorption of European Union cohesion funds**.** The government's decision, under which the country is divided into Pannonian Croatia, North Croatia, Adriatic Croatia and the City of Zagreb, will go into force on 1 January 2023.[73]

Until then the NUTS2 division into two regions is valid, Adriatic Croatia, which includes seven coastal counties, and Continental Croatia, which includes the City of Zagreb and thirteen remaining counties.

[71] OG 86/06, 125/06 – correction, 16/07 – correction, 95/08 – Decision Constitutional Court of RC, 46/10 – correction, 145/10, 37/13, 44/13, 45/13 i 110/15)

[72] http://croatia.eu/index.php?view=article&lang=2&id=6

[73] https://vlada.gov.hr/news/gov-t-launches-changes-to-country-s-statistical-subdivision/25178

Figure 17. NUTS 2 division which will go into force on 1 January 2023[74]

3.2.2 Population

With 4.087.843 million inhabitants in 2018[75], Croatia is 20th among the members of the European Union. Population density amounts to 72 per km² which makes it as one of the more sparsely populated European countries, along with Norway, Finland, Sweden, Estonia, Latvia, Lithuania, Ireland and Bulgaria.

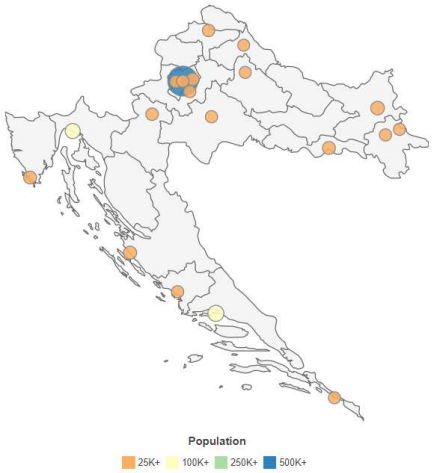


Figure 18. Croatia population density map[76]

For the past twenty years, the population has been decreasing. The decrease in the total number of inhabitants was realized by all counties, except the City of Zagreb and the County of Istria, in which, compared to the previous year's estimate, there was a relative increase of 0,22% and 0,26%. The largest relative decline in population was recorded in Vukovar-Srijem County (3,04%).

[74] Source: Izrada prijedloga nove NUTS 2 klasifikacije u RH, Institut za razvoj i međunarodne odnose, 2018, https://razvoj.gov.hr/UserDocsImages/Vijesti%20-%20dokumenti/Izrada%20prijedloga%20nove%20NUTS%20klasifikacije%20u%20RH%20012019.pdf

[75] https://www.dzs.hr/Hrv_Eng/publication/2019/07-01-03_01_2019.htm

[76] https://worldpopulationreview.com/countries/croatia-population

About 52% of the population lives in only five counties, mostly in the City of Zagreb (804.507 or 19,7%) and in the Split-Dalmatia County (448.071 or 11,0%), while Požega-Slavonia County had the least population. (67.862 or 1,7%) and Lika-Senj County (45.184 or 1,1%).

A long period of depopulation has resulted in many negative consequences, such as the reduction of the core population producing new generations, the reduction of the active working population, and the increasing care needs of the older population; in other words, increased economic and social burdens placed on the state budget in the areas of pension insurance, social and health care of the elderly, etc.[77]

Apart from the decreasing population, the contemporary demographic picture of Croatia is much like those of the other members of the EU. It is characterised by three processes: ageing, natural depopulation, and spatial polarisation of the population.

The average age, which was 34 fifty years ago, has risen to 43,4 in 2018 which ranks Croats among the oldest nations in Europe. One quarter of the population of Croatia is over 60 years old while the share of the young people aged 0 to 19 years at the state level is 19,6%.

The share of women in the total population is 51,7%, and the share of men 48,3%. Such a ratio is present in most counties. The smallest share of the female population was in Lika-Senj County (50,1%), while the largest share was in the City of Zagreb (53,1%).

The share of the fertile contingent in the total female population continued to decrease. Therefore, in 2018, it amounted to 41,5%. Average number of children per woman of fertile age is 1.4, it is below multi-year average for the EU-28 which is in the range of 1.55-1.62.[78]

The natural increase rate was negative at -3,9 (-15.761 persons). The negative natural increase was also confirmed by the vital index (live births per 100 deaths), which amounted to 70,1. The negative natural increase rate was recorded in all counties.[79]

A positive natural increase was recorded in 58 towns / municipalities, negative one in 492 towns / municipalities and in the City of Zagreb, while 5 towns / municipalities recorded a zero-natural increase.

3.2.3 Economy

After a six-year recession, 2019 was the fifth year in a row in which stable and moderate economic growth was achieved. The realized GDP growth rate was 2,9%, which is a slight increase compared to the previous year when the value of Gross domestic product (GDP) was 2,7%.[80]

According to the last available public data, for 2018, the most important sectors of Croatia's economy is wholesale and retail trade, transport, accommodation, and food services (23,1%), industry (20,4%) and public administration, defence, education, human health and social work activities (15,5%).[81]

The service sector in total represents about 59% of the country's GDP, employing almost 70% of the workforce.

[77] http://croatia.eu/index.php?view=article&lang=2&id=14
[78] https://www.hzjz.hr/wp-content/uploads/2019/08/Prirodno_kretanje_2018.pdf
[79] https://www.dzs.hr/Hrv_Eng/publication/2019/07-01-01_01_2019.htm
[80] https://www.hnb.hr/statistika/glavni-makroekonomski-indikatori
[81] https://ec.europa.eu/eurostat/statistics-explained/images/9/9f/Gross_value_added_at_current_basic_prices%2C_2008_and_2018_%28%25_share_of_total_gross_value_added%29_FP19.png

Regarding the tourism sector, in 2018 international tourists' expenditure in Croatia amounted to almost 20% of GDP – by far the largest share in the EU. [82]

Intra-EU trade accounts for 68% of Croatia's exports (Italy 14%, Germany 13% and Slovenia 11%), while outside the EU 9% go to Bosnia and Herzegovina and 4% to Serbia. In terms of imports, 78% come from EU Member States (15% Germany, Italy 13% and Slovenia 11%), while outside the EU 3% come from both Bosnia and Herzegovina and China.[83]

Last available public data (2017)[84] show that significantly the largest share in the GDP of the country, of all counties makes the City of Zagreb (34%). The share for other counties varies from 1% to 8%.

In 2020 the escalation of the coronavirus crisis and the measures introduced by public health authorities to limit the spread of the contagion have led to a significant decline in economic activity. Lengthy disruptions in global supply chains and falling demand, especially for travel and tourism—the single most important sector in the Croatian economy—could contribute to an even stronger economic recession. This would also result in a further widening of the fiscal deficit, requiring substantial borrowing and leading to a large increase in public debt.

The social and economic impact of the coronavirus pandemic is further exacerbated by the damaging earthquake that struck the Croatian capital and its surroundings on March 22, 2020. While the results of the damage assessment are still pending, the economic impact is expected to be very severe and reconstruction may take several years.[85]

According to data from Croatian Bureau of Statistics (CBS)[86]:

- The gross domestic product increased in real terms by 0,4% in the first quarter of 2020, while the seasonally adjusted quarterly GDP increased by 0,3% compared to the same quarter of 2019 (Figure 19);

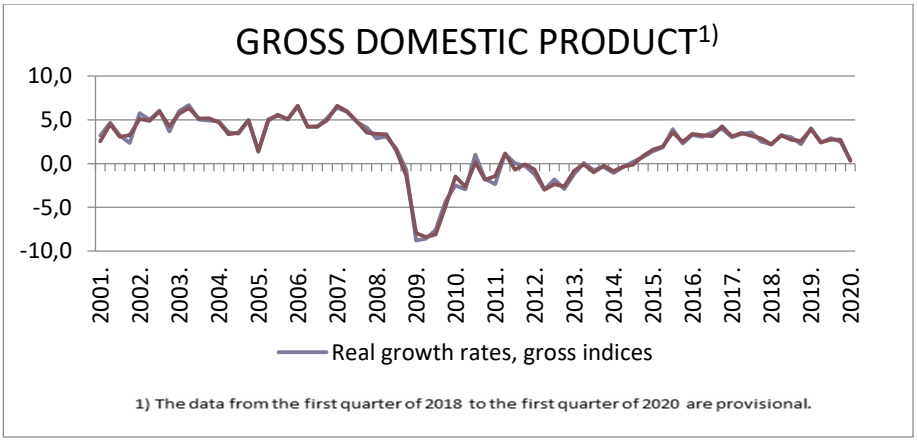


Figure 19. Gross domestic product over years and in May 2020, Croatia[87]

- Working-day adjusted industrial production in May 2020, as compared to May 2019, decreased by 12,4%;

[82] https://ec.europa.eu/info/sites/info/files/economy-finance/eb036_en.pdf
[83] https://europa.eu/european-union/about-eu/countries/member-countries/croatia_en;
[84] https://www.dzs.hr/Hrv_Eng/publication/2020/12-01-03_01_2020.htm
[85] https://www.worldbank.org/en/country/croatia/overview#3
[86] https://www.dzs.hr/Hrv/publication/StatisticsInLine.htm
[87] Source: CBS

- Working-day adjusted retail trade turnover in real terms in May 2020, as compared to May 2019, decreased by 7,8%;
- Working-day adjusted turnover from service activities in nominal terms in the Republic of Croatia in April 2020, as compared to April 2019, decreased by 33,5%;
- The working-day adjusted index of construction works in April 2020, as compared to April 2019, decreased by 4,7%;
- The working-day adjusted index of construction works in April 2020, as compared to April 2019, decreased by 4,7%;
- From January to April 2020, as compared to the same period last year, the export of the Republic of Croatia decreased by 4,9%, while the import decreased by 10,1%;
- In May 2020, the number of unemployed persons amounted to 157.839. The registered unemployment reached 9,5% in May 2020, which is 2,5 percentage points higer than in May 2019;
- Average gross earnings amounted to 9.057 kuna in April 2020, which is in real terms 0,4% higher than in April 2019. Average net earnings in the same period amounted to 6.622 kuna, which is in real terms 0,4% higher than in April 2019;
- The prices of goods and services for personal consumption, measured by the consumer price index decreased by 0,2% on average in June 2020 compared to June 2019, while the consumer price index excluding energy and food increased by 0,9% on average. The producer prices of industrial goods in June 2020, as compared to June 2019, decreased by 4,2%.

It is anticipated that Croatia will need to revisit its growth model and focus on specific policies to increase its resilience to exogenous shocks and raise the economy's growth potential.[88]

3.2.4 Social protection

The social welfare system in the Republic of Croatia is based on the principle of subsidiarity, which implies the responsibility of individuals and families for their own social security. The role of the state is to help, with the aim of preventing, mitigating and eliminating social vulnerability. Beneficiaries, rights and conditions for their realization, as well as other issues of importance for this activity, are defined by the Law on Social Welfare[89].[90]

About the recognition of the right in the social welfare system, except for compensation for housing costs and the right to heating costs, decides locally competent social welfare centre in the form of decision, according to the applicant's place of residence.

The recognition of the right to compensation for housing costs is decided by the local self-government unit and the City of Zagreb, in accordance with the provisions of the Social Welfare Act and special laws.

The recognition of the right to compensation for heating costs is decided by the regional self-government unit and the City of Zagreb, in accordance with the provisions of the Social Welfare Act.

Except social welfare centre, social services also provide:

[88] https://www.worldbank.org/en/country/croatia/overview
[89] OG 157/13, 152/14,99/15, 52/16,16/17, 130/17 and 98/19
[90] https://gov.hr/moja-uprava/obitelj-i-zivot/socijalna-skrb/sustav-socijalne-skrbi/367

- a social care home / community service centre,
- home help centre,
- associations, religious communities, other legal entities and craftsmen,
- natural persons as a professional activity,
- foster families.

In 2018, the share of social protection in the GDP of the Republic of Croatia amounted to 21,7%, which represents an increase of 0,1 percentage points compared to 2017. The GDP in current prices increased by approximately 16,5 billion kuna, while total social protection expenditures increased by approximately 3,9 billion kuna.

Concerning receipts, social contributions were the most frequent ones (59,9% of all social protection receipts in 2018). General government contributions followed with 36,8%.

Social protection benefits accounted for 98,3% of total social protection expenditures in 2018. By type of social benefits, those in cash were the most frequent ones (64,8%). By characteristics, non-means-tested social protection benefits (both in cash and in kind) were the most frequent ones (95,3%).

Viewed by social protection functions, the largest share of social benefits was spent on relieving the financial burden related to the Old-age risk (34,0% of all social protection benefits), followed by the Sickness/Health care function (33,6%). The least resources were spent on the Housing function (0,1%).

Comparing the data on the share of costs for the social protection in the national GDP with the EU Member States, the Republic of Croatia fell behind the EU-28 average by 6,3 percentage points in 2017. When it comes to data on social protection expenditures per inhabitant with EU Member States, calculated in purchasing power standard, the Republic of Croatia fell behind the EU-28 average by 53% in 2017. According to this indicator, expenditures on all social protection functions in the Republic of Croatia were below the EU average, and in absolute terms, the Old-age function fell behind the most.

Table 7. Share of each function in total amount of social protection benefits over years, Croatia[91]

	2012	2013	2014	2015	2016[1)]	2017	2018
Total expenditures on social protection benefits, by function (%)	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Sickness/Health care (%)	35,0	32,9	31,7	33,0	32,6	33,3	33,6
Disability[2)] (%)	12,9	12,9	12,1	11,8	10,8	10,5	10,3
Old age[2)] (%)	31,4	32,9	33,7	33,3	33,5	33,7	34,0
Survivors (%)	9,8	10,0	9,6	9,3	8,9	8,7	8,5
Family/Children (%)	7,5	7,5	9,0	8,7	8,7	8,7	9,0
Unemployment (%)	2,3	2,6	2,5	2,6	3,7	3,3	2,9
Housing (%)	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Social exclusion not elsewhere classified (%)	1,0	1,1	1,2	1,2	1,7	1,7	1,6

Note 1) Revised data; Note 2) In line with the ESSPROS methodology, disability pensions for beneficiaries above legal retirement age have been transferred to Old-age function.

[91] Source: CBS, https://www.dzs.hr/Hrv/publication/StatisticsInLine.htm (https://www.dzs.hr/Hrv_Eng/publication/2020/10-01-05_01_2020.htm)

3.2.5 Health Care

Despite a challenging economic context and major fiscal pressures on health expenditure, Croatia has managed to keep publicly funded health services accessible to its population. Croatia has seen major fluctuations in its per capita health expenditure in recent years, due to high unemployment rates and a challenging fiscal context. Strengthened health system governance will be crucial to ensure financial sustainability.

The Ministry of Health holds the stewardship role in the health system and is the main regulatory body, responsible for an array of functions, including health policy development, planning and evaluation, public health programmes, regulatory standards and the training of health professionals.

Croatia has a mandatory health insurance system, with the Croatian Health Insurance Fund (CHIF) being the sole insurer and the main purchaser of health services. The CHIF contracts with health care providers for the provision of services and plays a key role in defining which health services are covered by the publicly financed system. It also oversees performance standards and price-setting for services; is responsible for the payment of sick leave compensation, maternity benefits and other allowances; and is the main provider of complementary Voluntary Health Insurance (VHI) covering user charges (termed 'supplemental insurance' in Croatia).

The CHIF provides universal health insurance coverage to the entire resident population and it is not possible to opt out of the mandatory health insurance system. Dependent family members are covered through the contributions made by working family members, while those who are not economically active (such as pensioners and the unemployed), as well as vulnerable groups (people with disabilities, those on low incomes) are exempt from contributions and are covered through state budget transfers. The benefit package is broad, covering most types of health services. While co-payments have been introduced in recent years, exemptions for vulnerable groups ensure a good degree of financial protection

Complementary health insurance (mainly to cover user charges in the mandatory health insurance system, see below) is voluntary and is purchased individually from either the CHIF or a private insurer. Over 60 % of the population has this additional insurance.

Health expenditure in Croatia is among the lowest among EU Member States, both in per capita terms and as a percentage of gross domestic product (GDP). Expenditure as a percentage of GDP was 6,8 % in 2017, below the EU average of 9,8 %, but higher than eight other EU countries.

Hospital care is delivered through a network of general and specialist hospitals, most of which are owned by the counties. Highly specialised tertiary care is provided by hospitals owned by the central government. Specialised outpatient services, such as consultations provided by secondary care specialists, are mostly delivered in hospital outpatient departments. Since 2009, hospitals contracted by the CHIF have been paid using a diagnosis-related group (DRG) system and spending limits, with the aim of reducing costs and increasing efficiency. [92]

[92] https://ec.europa.eu/health/sites/health/files/state/docs/chp_hr_english.pdf; https://ec.europa.eu/health/sites/health/files/state/docs/2019_chp_hr_english.pdf

Table 8. Founders responsible for investment in health care institutions

Founder	Responsible for investments
State	Investment and current maintenance of health care institutions - space, medical and non-medical equipment and means of transport and for informatization of health care activities, in accordance with the plan and program of health care measures in the public health service network for health care institutions founded by losses of health institutions **of which it is the founder**
State	Investment in hospitals and investment in all health care institutions **whose founders are units of regional self-government, i.e. the City of Zagreb or local self-government units, and are located in assisted areas**.
State	Investment in health care institutions **whose founders are units of regional self-government, i.e. the City of Zagreb or units of local self-government, in case of the need to remedy the consequences caused by a natural disaster or other catastrophe.**
Regional self-government units	Investment and current maintenance of health care institutions - space, medical and non-medical equipment and means of transport and for informatization of health care activities, in accordance with the plan and program of health care measures and public health service network, as well as cover of losses of health care institutions **of which it is the founder.**
Local self-government units	Investment and current maintenance of health care institutions - space, medical and non-medical equipment and means of transport and for informatization of health care activities, in accordance with the plan and program of health care measures and public health service network, as well as cover of losses of health care institutions **of which it is the founder.**

There are several types of health care institution (university hospitals, university hospital centres, national institutes of health, specialist clinical hospitals) can only be established by the Ministry of Health. Counties can establish general and special hospitals (special hospitals may also be established by cities and other legal persons); primary health centres (there must be at least one primary health centre per county and at least three in the city of Zagreb); County Institutes of Emergency Medicine; County Institutes of Public Health; outpatient clinics; spas; health care facilities providing home care; palliative care institutions; and pharmacies.[93]

Table 9. Health institutions in Croatia, December 31,2019[94]

Health institutions	Number of institutions[95]	Founder[96]
Health center	49	Regional self-government unit and City of Zagreb
Clinical teaching hospital	5	State
Clinical hospital	3	State
Clinic	5	State
General hospital	22	Regional self-government unit and City of Zagreb
Special hospital	34	Regional self-government unit and City of Zagreb, local self-government unit and another legal entity and a natural person
Health resort	7	Regional self-government unit and City of Zagreb and another legal entity and a natural person
Public health institute	22	Regional self-government units and City of Zagreb
Other state institutes:		

[93] https://www.who.int/health-laws/countries/hrv-en.pdf?ua=1
[94] Source: Public health institute
[95] https://www.hzjz.hr/periodicne-publikacije/hrvatski-zdravstveno-statisticki-ljetopis-za-2019-tablicni-podaci/
[96] https://www.zakon.hr/z/190/Zakon-o-zdravstvenoj-za%C5%A1titi

Health institutions	Number of institutions[95]	Founder[96]
Institute of transfusional medicine	1	State
Institute of emergency medicine	1	State
Emergency care station	21	Regional self-government unit and City of Zagreb
Polyclinic	358	Regional self-government unit and City of Zagreb and another legal entity and a natural person
Institution of occupational health	6	Persons with a completed university graduate study in health.
Pharmacy	186	Regional self-government unit and City of Zagreb and another legal entity and a natural person
Nursing care institution	280	Regional self-government unit and City of Zagreb and another legal entity and a natural person
Health company	648	Legal entity
Total	**1.648**	

Table 10. Health institutions in the project area

Health institutions	Zagreb County	Krapina – Zagorje County	City of Zagreb	Sisak-Moslavina County	Karlovac County
Clinical teaching hospital	0	0	2	0	0
Clinical hospital	0	0	3	0	0
Clinic	0	1	3	0	0
General hospital	0	1	0	1	2
Special hospital	2	2	5	0	1
Health resort	0	0	0	1	0
Health center	0	1	4	3	6
State Institutes	0	0	7	0	0
Emergency care station	1	1	1	1	1
Polyclinic	0	0	7	0	1

Source: MoH[97]

[97] https://zdravlje.gov.hr/arhiva-80/ministarstvo-zdravlja/zdravstvene-ustanove-u-republici-hrvatskoj/656

4 NATIONAL ENVIRONMENTAL AND SOCIAL LEGISLATION AND INSTITUTIONS RELEVANT FOR THE PROJECT IMPLEMENTATION

4.1 National environmental and social legislation

4.1.1 National environmental legislation

The following Croatian legislation define a legal framework for environmental management:

- Environmental Protection Act (OG 80/13, 153/13, 78/15, 12/18, 118/18),
- Regulation on environmental impact assessment (OG 61/14, 3/17),
- Nature Protection Act (OG 80/13, 15/18, 14/19,127/19),
- Waste Management Act (OG 84/21)
- Air Protection Act (OG 127/19)
- Water Act (OG 66/19, 84/21)
- Energy Efficiency Act (OG 127/14, 116/18, 25/20)
- Noise Protection Act (OG 30/09, 55/13, 153/13, 41/16, 114/18)

Environmental Protection Act regulates: environmental protection principles and objectives within the concept of sustainable development, environment components protection and environmental stress protection. Furthermore it regulates environmental protection entities, sustainable development and environmental protection documents, environmental protection instruments, environmental monitoring, information system, access to information on the environment, access to justice in the environmental issues, public participation in the environmental issues, responsibility for environmental damage, funding and general policy instruments in environmental protection as well as administrative and inspection control.

According to this Act environmental protection objectives are as follows:

- protection of human life and health,
- protection of flora and fauna, geodiversity, biological and landscape diversity and preservation of ecological stability,
- protection and improvement of the quality of individual environmental components,
- protection of the ozone layer and climate change mitigation,
- protection and restoration of cultural and aesthetic landscape values,
- prevention of major accidents involving dangerous substances,
- prevention and reduction of environmental pollution,
- continuous use of natural resources,
- rational use of energy and promoting the use of renewable energy sources,
- elimination of environmental pollution effects,
- improvement of the disturbed natural balance and restoration of its regeneration capabilities,
- achievement of sustainable production and consumption,
- phase-out and substitution of use of dangerous and harmful substances,
- sustainable use of natural assets,
- ensuring and development of long-term sustainability
- improving environmental status and securing a healthy environment.

These objectives should be accomplished through application of environmental protection principles and environmental protection instruments, prescribed by this Act and sub-laws.

Sustainable development principles are following: precautionary principle, principle of preservation of natural assets, biological diversity and landscape, substitution and/or compensation principle, principle of removal and remediation of environmental damage at the source, principle of integrated approach, principle of cooperation, polluter pays principle, principle of access to information and public participation, promotion principle, principle of the right of access to justice.

These principles should be applied to ensure the protection: of the soil and Earth's lithosphere, forest, air, water, marine and coastal zones, nature, protection against the effects of environmental burdening, against adverse effects of genetically modified organisms, noise, Ionising radiation protection and nuclear safety, adverse effects of chemicals, light pollution, waste management.

Different instruments and procedures are defined by this Act like: strategic environmental assessment of strategies, plans and programmes, environmental impact assessment and scoping procedure, environmental permitting procedure[98], etc.

Detail provisions of environmental impact assessment procedure are defined by **Regulation on environmental impact assessment.** This Regulation inter alia specifies: the criteria and procedure for conducting environmental impact assessment; the content of the EIA Report and Screening Report (preparation of Screening Report is part of the screening process); the manner of participation of practitioners authorized to prepare the EIA Report/Screening Report; public participation process, the manner of work of the commission participating in the EIA procedure, development of guidelines for the preparation of EIA Report, etc. Regulation determines the list of interventions/projects that are within the competence of the MoESD and the competent administrative body in the counties and City of Zagreb for which it is necessary to conduct EIA or Screening procedure.

Nature Protection Act regulates the nature protection system and integral nature preservation and its parts and other related issues.

According to this Act, nature protection objectives and tasks are as follows:

- preservation and / or restoration of biodiversity by preserving natural habitat types, wild species and their habitats, including all bird species that occur naturally in the territory of the Republic of Croatia, as well as bird eggs and nests, by establishing an appropriate protection, management and control system,
- preservation of landscape and geodiversity in the natural balance state and harmonised relations with human activities,
- determination and monitoring the state of nature,
- providing of nature protection system for its permanent preservation,
- ensuring the sustainable natural resources usage without significant damage to parts of nature and with the least possible disturbance of the balance of its components,
- contribution to the preservation of the soil naturalness, the quality preservation, water and sea quantity and availability, the preservation of the atmosphere and the production of oxygen, and the preservation of the climate,

[98] Permiting procedure according to Industrial Emissions Directive (IPPC, Directive 96/61/EC concerning integrated pollution prevention and control was repealed by Directive 2010/75/EU on industrial emission, IED)

- prevention or mitigation harmful interventions of people and disturbances in nature as a consequence of technological development and activities performance.

These objectives should be accomplished through application of nature protection principles and nature protection instruments, prescribed by this Act and sub-laws.

Nature protection and conservation principles are following: everyone must behave in such a way as to contribute to the conservation of biodiversity, landscape diversity and geodiversity and to the conservation role of nature; non-renewable natural assets should be used rationally and renewable natural assets sustainably; in the use of natural resources and spatial planning it is obligatory to apply the principles of sustainable use; nature protection is the obligation of every natural and legal person, and in that manner they are obliged to cooperate in order to avoid and prevent dangerous actions and damage, remove and repair the consequences of damage and restore natural conditions that existed before the damage; precautions, when there is a threat of serious or irreparable damage to nature; the public has the right to free access to information on the state of nature.

Different instruments and procedures are defined by this Act like: competences in administrative and professional preforming of nature protection activities; ecological network acceptability assessment; environmental assessment of strategies, plans and programmes; obtaining certificates and permits for interventions in protected areas etc.

Waste Management Act prescribes measures for the environmental protection and human health by preventing or reducing waste generation, reducing the negative effects of waste generation and waste management, reducing the overall effects of raw material use and improving the efficiency of raw material use and increasing recycling and reuse, which is necessary for the transition to a circular economy. It regulates the waste management system, including the order of priority of waste management, principles, goals and manner of waste management, planning documents in waste management, competencies and obligations in waste management, locations and facilities for waste management, waste management activities, cross-border waste transport, waste management information system and administrative and inspection supervision over waste management. This Act also prescribes measures and conditions for the operation of landfills and requirements for waste that may be disposed of in order to prevent or minimize harmful effects on the environment and human health due to waste disposal.

Air Protection Act determines the competence and responsibility for air protection, planning documents, monitoring and assessment of air quality, measures for prevention and reduction of air pollution, reporting on air quality and data exchange, air quality monitoring and air emissions, air protection information system, air protection financing, administrative and inspection supervision.

Water Act regulates the legal status of water, water resources and water structures, water quality and quantity management, protection against harmful effects of water, detailed reclamation drainage and irrigation, special activities for water management, institutional structure for conducting these activities and other issues related to waters and water well.

Energy Efficiency Act regulates the area of energy efficient use , adoption of plans at the local, regional and national level for improving energy efficiency and their implementation, energy efficiency measures, energy efficiency obligations, obligations of the energy regulator, transmission system operator, distribution system operator and energy market operators in connection with the transmission, ie transport and distribution of energy, obligations of energy distributors, energy and /

or water suppliers, and in particular energy service activities, determination of energy savings and consumer rights in the application of energy efficiency measures.

Noise Protection Act establishes measures to avoid, prevent or reduce harmful effects on human health that cause environmental noise, including noise, in particular in relation to: determining noise exposure by making noise maps based on the method for assessing environmental noise, ensuring the availability of environmental data to the public, development and adoption of action plans based on data used in the development of noise maps. The provisions of this Act shall apply to the assessment and management of noise from the environment to which people are exposed, especially in built-up areas, public parks or other such areas in populated areas, in those areas in nature, in addition to schools, hospitals and other buildings.

Also, Croatia ratified Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel 1989), Published in OG–IT No. 3/94, came into force with respect to the Republic of Croatia on 7 August 1994. In 2019 Croatia ratified amendment to Basel Convention - Act on Ratification of Amendments to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal OG-IT No. 7/19.

The main regulation which defines conditions for the transport of dangerous goods including hazardous waste in certain branches of transport is **Act on the Transport of Dangerous Goods (OG 79/07, 70/17).** It entered into force on January 1, 2008 and implements the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) as well as the corresponding Annexes A and B, which are amended every other (odd) year. This Act stipulates the obligations of persons participating in transport, the conditions for packaging and vehicles, the conditions for appointing safety advisers, rights and obligations, competence and conditions for training persons participating in the transport; competence state authorities and overseeing law enforcement. Thereby, it prescribes preventive safety measures and the procedure in case of an accident, measures in case of spillage or leakage of dangerous substances, documentation that must be possessed during the transport of dangerous substances and other requirements that must be met during the transport of dangerous substances.

According to the Act on the Transport of Dangerous Goods, participants in the transport of dangerous goods are obliged to take all necessary measures to prevent an accident, or to minimize the consequences of an accident. The carrier, consignor, consignee and organizer of transport must cooperate with each other and with the authorized persons of the competent authorities in order to exchange information on the need to take appropriate safety and preventive measures, and procedures in case of accident.

In case of an accident, participants in the transport of dangerous goods are obliged to immediately inform the MoI (112) and provide all information necessary to take appropriate measures. In the event of an accident for which there is an obligation to report, the carrier, safety advisor or the transport organizer must submit the prescribed report to the MoSTI.

In the case of loss of dangerous goods during transport, the carrier is obliged to take all necessary measures to find the lost dangerous goods, and notify the MoI without delay.

In case of spillage or leakage of dangerous substances, the carrier is obliged to insure, collect or dispose of dangerous substances that spilled or expired during transport, or place them in a designated place or otherwise make them safe and notify the MoI.

If the carrier is not able to act in accordance with the above, he is obliged to call a legal or natural person authorized to act in case of accidents or incidents with dangerous substances, at the expense of the carrier.

Detailed written instructions on how to act in the case of an accident must be present in the vehicle when transporting dangerous goods (standardized instructions for all types of transport, in a language understood by the vehicle crew, and the carrier is obliged to provide it to its drivers). The mandatory content of these instructions is prescribed by Chapter 5.4.3.4. of Annex A of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) which has been transposed into the national legislation by Article 62 of Act on the Transport of Dangerous Goods (ANNEX I).

In addition to these instructions, the transport of dangerous goods in the vehicle must be accompanied by the following documents:

- document on the transport of dangerous goods (the sender hands it over to the driver together with the goods). The data that must be stated in the document are prescribed, and their obligatory order is also prescribed. Indicate: UN number, dispatch name, hazard statement, packing group, tunnel code, number and description of the package or IBC container, total quantity of each dangerous substance (as volume, gross weight or net weight), name and address of consignor
- certificate on the driver's qualification (the driver must undergo training in an authorized institution and obtain a certificate from the MoSTI);
- vehicle certificate of validity (for vehicles of type EXII, EXIII, FL, OX, AT and MEMU in authorized stations for technical inspection);
- confirmation of individual vehicle inspections (technical inspections, brake inspections, periodic inspections);
- additional insurance and transport authorization (authorizations must exist for the transport of explosives (class 1) and the transport of radioactive substances (class 7)).

Other relevant sub-legislation from the perspective of project activities, which arise from the primary environmental laws are as follows:

- Regulation on information and participation of the public and interested public in environmental issues (OG 64/08);
- Ordinance on the environmental pollution register (OG 87/15);
- Regulation on the ecological network and the competencies of public institutions for the management of ecological network areas (OG 80/19);
- Ordinance on waste catalogue (OG 90/15);
- Ordinance on waste management (OG 81/20);
- **Ordinance on medical waste management (OG 50/15, 56/19);**

  Ordinance on Medical Waste Management regulates waste management procedures (collection, transport and treatment) for waste arising from providing healthcare to humans

and / or animals, research activities and the provision of various services that come into contact with human blood and / or secretions and / or animals[99].

According to this Ordinance any institution where medical waste is generated must have person responsible for ensuring that medical waste management is conducted in line with this Ordinance, to ensure education of personnel on how to properly handle medical waste, keep records on waste management, etc.

Furthermore, this Ordinance stipulate obligation for producers of medical waste to collect medical waste separately from other types of waste, and to ensure special conditions for storage of medical waste. Producers of medical waste can hand over medical waste only to companies that are licensed for management of medical waste. They are allowed to sterilize infectious medical waste and diapers at the location where such waste is produced.

This Ordinance define details on: how medical waste must be packaged, how it is necessary to label medical waste containers, what basic characteristics containers must meet, what conditions must be met while transporting medical waste, conditions for treatment of infectious and pathological medical waste.

More details regarding the conditions defined by Ordinance on Medical Waste Management are given in sub-chapter 7.1.1.8.

- Regulation on municipal waste management (OG 50/17, 84/19, 14/20, Decision of the Constitutional Court of the Republic of Croatia, 31/21, Decision and Ruling of the Constitutional Court of the Republic of Croatia);
- Ordinance on the monitoring of emissions of pollutants into the air from stationary sources (OG 129/12, 97/13);
- Regulation on limit values of emissions of pollutants into the air from immovable sources (OG 87/17);
- Ordinance on air quality monitoring (OG 72/20);
- Ordinance on issuance of water law acts (OG 9/20);
- Ordinance on limit values of wastewater emissions (OG 26/20);
- Ordinance on energy audit of buildings and energy certification (OG 88/17, 90/20);
- Ordinance on the method of preparation and content of noise maps and action plans and on the method of calculation of permitted noise indicators (OG 75/09, 60/16, 117/18).

Detailed information on primary laws and sub-legislation is available at web site of MoESD: https://mzoe.gov.hr/o-ministarstvu-1065/djelokrug-4925/4925

The environmental legal, regulatory and policy framework in the Republic of Croatia is ensured through the following main instruments:

- Environment Impact Assessment;

[99] Radioactive medical waste management is not subject of this Ordinance and is regulated by special legislation. For more details see sub-chapter 7.1.1.8. The provisions of this Ordinance do not apply to procedures for sterilization of cultured microorganisms and tissues and equipment that belong to the regular work process of microbiological and similar laboratories as well as surgical and similar departments and surgeries that are not considered waste management activities and are performed in accordance with medical profession rules.

- Ecological Network (Natura 2000) Appropriate Assessment;
- Location and Building permitting process;
- Physical Planning.

The regulations in the field of spatial planning determine the possibility of construction on certain land, the basic conditions for construction. This legislation defines criteria based on which a location permit is issued.

Physical planning is defined by Physical Planning Act (OG 153/13, 65/17, 114/18, 39/19, 98/19) and other regulation (main requirements for physical planning, strategic and planning documents, procedures for their adoption and implementation, procedure for issuing location permit etc.).

The implementation of every project, thus including also projects of infrastructure development, reconstruction etc., have to be carried out on "land" on which the construction of a certain structure is allowed, meaning the land has to be so-called building land on which, in line with effective physical planning documents or physical plans, the respective location permit can be obtained in conformity with the provisions of the Physical Planning Act. This is additional safeguard mechanism closely related to the environment.

The location of the planned activities/projects must be marked in physical plans, before the construction starts. State/county/local Physical Plans already give certain measures and limitations regarding the improvement and protection of nature and the environment, cultural heritage and other protected values.

All buildings (public health laboratories) subject of this project will be repaired/rehabilitated in situ within the bounds of existing building footprints and thus physical planning environmental mechanism is not considered as relevant for this project.

In Chapter 4.1.4 and Chapter 4.1.5 application of environment impact assessment and location and building permitting process are given in more details.

4.1.2 National social legislation

The right to equality and non-discrimination is a fundamental human right protected by the Constitution of the Republic of Croatia and other legal acts such as the Constitutional Act on National Minorities Rights (OG 155/02, 47/10, 80/10, 93/11, 93/11), the Labor Act (OG 93/14, 127/17, 98/19), the Gender Equality Act (OG 82/08, 69/17) and the Anti-discrimination act (OG 85/08, 112/12).

Conditions for approving the entry, stay and work of foreigners are prescribed by the provisions of the Foreigners Act (OG 133/20), the Law on EEA Member States Nationals and Their Family Members (OG 66/19, 53/20, 144/20).

Fundamental obligations and rights arising from employment relationships and principles of prevention and occupational safety rules are stipulated by the Labor Act (OG 93/14, 127/17, 98/19) and Occupational Safety and Health Act (OG 71/14, 118/14, 94/18, 96 / 18).

Labor Act manages relationship between parties involved in the process of employment. It protects and applies to any physical person that has concluded an employment contract with an employer.

Fundamental obligations and rights arising from employment relationships are stipulated by the Article 7 of the Labor Act. This Article defines that the employer shall be obliged to ensure work for an employed worker and pay remuneration for the work performed, and the worker shall be obliged to complete the work following the instructions provided by the employer in line with the nature and type of work. Furthermore, according to paragraph 2, the employer shall be entitled to determine the

place and the manner of performing the work and shall respect the workers' rights and dignity. Paragraph 3 outlines that the employer shall be obliged to ensure safe working conditions with no detrimental effects on the health of the worker, following a special law and other regulations.

The national policy, principles of prevention and occupational safety rules, obligations of the employer, rights and obligations of workers, including supervision and misdemeanour liability in the Republic of Croatia, are regulated by the Occupational Safety and Health Act.

The Act defines measures to protect workers from psychosocial risks (stress) and psychophysiological effort at work, with the aim of prevention and education of all stakeholders. The Act sets out the general principles of risk prevention at work and protection of health, rules to eliminate risk factors, procedures of training of workers and procedures of information and consultation of employees and their representative with employers and their authorized persons. The intention is to raise awareness and encourage preventive action not only by employers but also by employees.

The employer is obliged to implement occupational health and safety measures based on the general principles of prevention. These include: risk avoidance, risk assessment, prevention of risks at their source, adjustment of work to the employees in relation to the design of the workplace, the choice of work equipment and the mode of operation and work processes to relieve monotonous work. Employers must consider issues such as adaptation to technical progress, replacing hazardous substances or processes with the non-hazardous or less hazardous. They are also required to develop a consistent comprehensive prevention policy by connecting technology, organization of work, working conditions, human relationships and the influence of work environment. They must give preference to collective protective measures over individual ones, appropriately train and inform employees, and make all protective equipment available free of charge.

The Ordinance on the Occupational Health and Safety on Temporary Construction sites (OG 48/18) defines measures and activities for the protection of workers on temporary construction sites[100]. For example, requirements for evacuation roads and emergency exits, fire detection, sanitary equipment and first aid, etc. are defined by this Ordinance.

The occupational safety rules apply to all project phases from design to implementation. The investor is the first of the stakeholders of the occupational safety and health system when it comes to the design, construction and use of constructions. Because of that he is obliged to apply general principles of prevention and occupational safety rules at all stages of project design and preparation. Accordingly, during the design preparation, study on safety at work should be prepared. This study should elaborate the manner of applying the occupational safety rules when using buildings intended for work. When preparing the main project and during the construction works responsible person for occupational health and safety has to be appointed (by investor, building owner, concessionaire ...).

Pursuant to Article 74, paragraph 3 of the Occupational Safety and Health Act, the contractor of works on a temporary construction site is obliged to submit a site registration to body competent for labor inspection (State Inspectorate), at the latest one day prior to the commencement of the works (for especially dangerous works defined in Annex II of the Ordinance and if the duration of works is longer than 10 days). The content of site registration is defined in Annex III of the Ordinance. Copy of the site's registration must be available at the construction site in a visible place. Registration of the

[100] Temporary construction site is any work place where construction and other works are performed and whose incomplete list is given in Annex I. of this Ordinance

construction site, where the works will be carried out by two or more contractors, is the obligation of the investor, concession holder or other person for which the construction works are performed.

The contractor who performs the construction works is obliged to arrange the site and to ensure that the works are carried out in accordance with the occupational health and safety regulations. It is therefore necessary to prepare Construction Work Plan. The content of Plan is defined in Annex IV of the Ordinance. The Construction Work Plan contains detail elaboration of instructions and protocols among other regarding: persons responsible for safety at work, list of telephone numbers and emergency services and competent institutions, method of determining and marking construction site boundaries, list of activities indicating hazardous works, measures and instructions for safety at work (e.g. earthworks, uncontrolled demolition of earthworks, carpentry etc.), instructions on how to act in case of fires, earthquakes, burying workers in the trench, etc. Furthermore, this Plan contains how to storage materials at construction site, how to provide first aid in a case of accident at construction site, personal protective equipment, etc. The Construction Work Plan must be available at the construction site, and its preparation is obligation of the investor, concessionaire or other person for whom the construction works are performed.

If only one contractor performs construction works, then he is not obligated to prepare Construction Work Plan, and only has to send notification to the State Inspectorate, yet all requirements defined by Occupational Safety and Health Act must be met and is obliged to plan, prepare and implement work procedures and to develop and apply work technology so as not to endanger the safety and health of workers, while respecting the highest possible level of protection against risks at work and in connection with work.

Other relevant laws and by-laws are:

- Pension Insurance Act (OG 157/13, 151/14, 33/15, 93/15, 120/16, 18/18, 62/18, 115/18, 102/19);
- Act on the List of Occupational Diseases (NN 162/98, 107/07);
- Ordinance on the use of personal protective equipment (OG 18/17);
- Ordinance on the protection of workers from the risk of exposure to hazardous chemicals at work, limit values of exposure and biological limit values (OG 91/2018);
- Ordinance on testing the working environment (OG 16/16);
- Ordinance on inspection and testing of work equipment (OG 16/16);
- Ordinance on jobs where a minor may not be employed (OG 89/15, 109/19);
- Ordinance on safety signs (OG 91/15, 102/15, 61/16);
- Ordinance on safety at work for workplaces (OG 29/13);
- Ordinance on the protection of workers from the risk of exposure to vibration at work (OG 155/08);
- Ordinance on safety at work on temporary construction sites (OG 48/18);
- Ordinance on the protection of workers from exposure to noise at work (OG 46/08);
- Ordinance on the use of personal protective equipment (OG 39/06);
- Ordinance on placing personal protective equipment on the market (OG 89/10);
- Ordinance on jobs in special work conditions (OG 5/84);

– Ordinance on risk assessment (OG 112/2014).

4.1.3 Overview of the institutional framework

The main central government stakeholders regarding environmental issues in the Republic of Croatia are Ministry of Economy and Sustainable Development (MoESD) and Environmental Protection and Energy Efficiency Fund (EPEEF).

Ministry of Economy and Sustainable Development is the competent state body for the development and implementation of policies in the area of environmental protection: air, water, soil, solid waste, biological diversity and other natural resources, and ozone layer protection, climate change. The Ministry is also competent body for preparation of strategic and planning documents, implementation of environmental impact assessment procedure (EIA procedure) and collecting and analysing data on environment and reporting on the state on environment.

Ministry of Culture and Media is the competent state body with regard to preparation and adoption of legislation in the field of cultural heritage protection, keeping the Cultural Heritage Register, issuing prior approval for works at cultural heritage sites, managing chance findings procedures.

Ministry of Physical Planning, Construction and State Assets is responsible for preparation and adoption of legislation on physical planning and construction, preparation of spatial strategic and planning documents at the national level, issuance of location, building and use permit (location permits defined by national physical plan and special regulation, for interventions taking place at the area of two or more counties)**.**

According to Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (OG 102/20, 10/21, 117/21), **Fund for Reconstruction of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (Reconstruction Fund)** is established. The founders of the Reconstruction Fund are Republic of Croatia with the founding share of 80%, the City of Zagreb Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County with the founding share of 20% in their real estate budgets within their areas. Fund will perform professional and other tasks of preparation, organization and implementation of the reconstruction of buildings damaged by the earthquake and monitoring of the implementation of all reconstruction measures. The Reconstruction Fund is foreseen as a body for implementing decisions prepared by MoPPCSA. MoPPCSA is responsible for preparation and adoption of decisions on reconstruction and financial assistance, initiated at the request of the owner or co-owner of the damaged buildings or construction inspection authority, and Reconstruction Fund is responsible for implementation of these decisions. Fund will: conduct payment of financial assistance, implementation of the reconstruction, removal of buildings and construction of replacement houses, selection of certified civil engineers and architects or companies who prepare technical documentation, selection of contractors and supervising engineers, the auditors and providers of technical and financial control of the project, conclude and monitor the implementation of the works contracts and provide MoPPCSA data on reconstruction, after completion of construction works take over the building from the contractor and handing it over to the owner or co-owners together with the technical documentation, etc.

Ministry of Labour, Pension System, Family and Social Policy is responsible for employment policy, pension insurance system and social security policy occupational health and safety. The National Council for Occupational Safety, established by the Government of the Republic of Croatia, is in charge for monitoring in the field of occupational health and safety. Since this is a multidisciplinary topic, in addition to these institutions and regulations deriving from the Occupational Safety and Health Act

(OG 71/14, 118/14, 94/18, 96/18), other competent authorities, such as the **Ministry of Health**, participate in preparation, implementation and supervision of the occupational health and safety policy.

The Ministry of Health is the main regulatory body for the health care system. It regulates standards of health services; the training of health care professionals; and capital investments in public health care providers.

Croatian Institute of Public Health is a central public health institute in the Republic of Croatia. CIPH deals with public health, health promotion and education, disease prevention, microbiology, environmental health, school medicine, mental health care and addiction prevention. CIPH's main tasks are to plan, promote and implement measures for the enhancement of population health and reduction of health problems. CIPH carries out epidemiological surveillance and proposes, organizes and undertakes preventive and counter-epidemic measures. In addition, CIPH performs duties concerned with the analysis and evaluation of water safety and the impact of environmental factors on human health.

Ministry of the Interior along with administrative works, also carries out other works related to: road traffic safety, motor vehicle registration; explosives; fire protection and radiological and nuclear safety.

State Inspectorate is responsible for inspection in the field of environmental protection; air protection, sustainable waste management, protection from light pollution, water management, nature protection, cross-border traffic and trade with wildlife, energy, occupational safety and health, construction, etc.

Local and regional self-government units' responsibilities (which are not assigned to state bodies by the Constitution or law): social and child protection, education, health care, emergency preparedness. Local and regional self-government units are responsible for activities related to the arrangement of settlements and housing, spatial and urban planning, communal activities, childcare, social welfare, primary health care, upbringing and primary education, culture, physical culture and sports, consumer protection, protection and improvement of the natural environment and jobs fire and civil protection.

The Zagreb City Institute for the Conservation of Cultural and Natural Heritage performs activities related to: research and planning for the protection of cultural heritage; protection and preservation of cultural heritage and protection measures; preparation of conservation documentation; issuance of conditions and permits; nature protection; works and interventions in the regional park , significant landscape, forest park, natural monuments and park architecture; performance of works outside the build-up area; supervision of public institutions for the management of protected parts of nature; and other tasks assigned to it.

The Environmental Protection and Energy Efficiency Fund is the central body for collecting and investing extra-budgetary resources into programs and projects that protect nature and the environment, energy efficiency and renewable energy sources. In the system of management and control of the utilization of EU structural instruments in Croatia, EPEEF performs the function of Intermediate Body level 2 for the specific objectives in the fields of environmental protection and sustainability of resources, climate change, energy efficiency, and renewable energy sources.

Environmental monitoring activities are not centralized, as competences are divided, according to the type of monitoring, between different state and public bodies. In general, the MoESD are responsible for monitoring activities of waste management, nature protection and biodiversity, air quality. **Other**

monitoring activities are carried by Ministry of Agriculture, Croatian Waters, Croatian Meteorological and Hydrological Service, and other public bodies.

4.1.4 Environment Impact Assessment (EIA) national regulation

The main regulations governing environmental impact assessment procedure and the possible environmental impacts resulting from adoption of different strategic and planning documents are:

- Environmental Protection Act (OG 80/13, 153/13, 78/15, 12/18, 118/18),
- Nature Protection Act (OG 80/13, 15/18, 14/19, 127/19),
- Regulation on environmental impact assessment (OG 61/14, 3/17),
- Regulation on the strategic environmental assessment of strategy, plan and programme (OG 3/17),
- Regulation on the ecological network and the competencies of public institutions for ecological network management (OG 80/19),
- Ordinance on conservation objectives and conservation measures for target bird species in ecological network areas (OG 25/20, 38/20).

The **Environmental Protection Act** defines environmental protection objectives and principles, key stakeholders and their responsibilities and environmental impact assessment (EIA) procedure (Articles No. 76 to 94). In addition to assessing the environmental impact of a particular intervention/project according to Act, it is mandatory to implement strategic environmental assessment (SEA) by which environmental impacts that may arise from the implementation of different strategic and planning documents are evaluated (Articles No. 62-75). This is additional safeguard mechanism. For example, national physical plan (with which plans of the counties, cities and municipalities have to be aligned) must undergo procedure of strategic environmental assessment.

Detailed provisions of EIA procedure are defined by Regulation on environmental impact assessment. Environmental impact assessment is obligatory for interventions defined in Annex I of the Regulation. Annex II and Annex III determine interventions for which screening procedure has to be carried out. Ministry of Economy and Sustainable Development is responsible for the procedures defined by Annex I and II, while administrative body in the county or in the City of Zagreb is responsible for the implementation of interventions defined by Annex III. Criteria for defining environmental impact assessment necessary are defined in Annex V.

For interventions which could have significant adverse impact on the environment, and which are not listed in Annex I, II and III of the Regulation on environmental impact assessment, screening and opinion of the competent authority has to be obtain[101].

[101] For interventions/projects listed in Annex II and III, which do not meet the criteria set out in these annexes, and which could have a significant negative impact on the environment competent administrative body is the county/City of Zagreb. MoESD for interventions/projects for which it is necessary to obtain an environmental permit according to a special regulation, and which are not listed in Annex I.

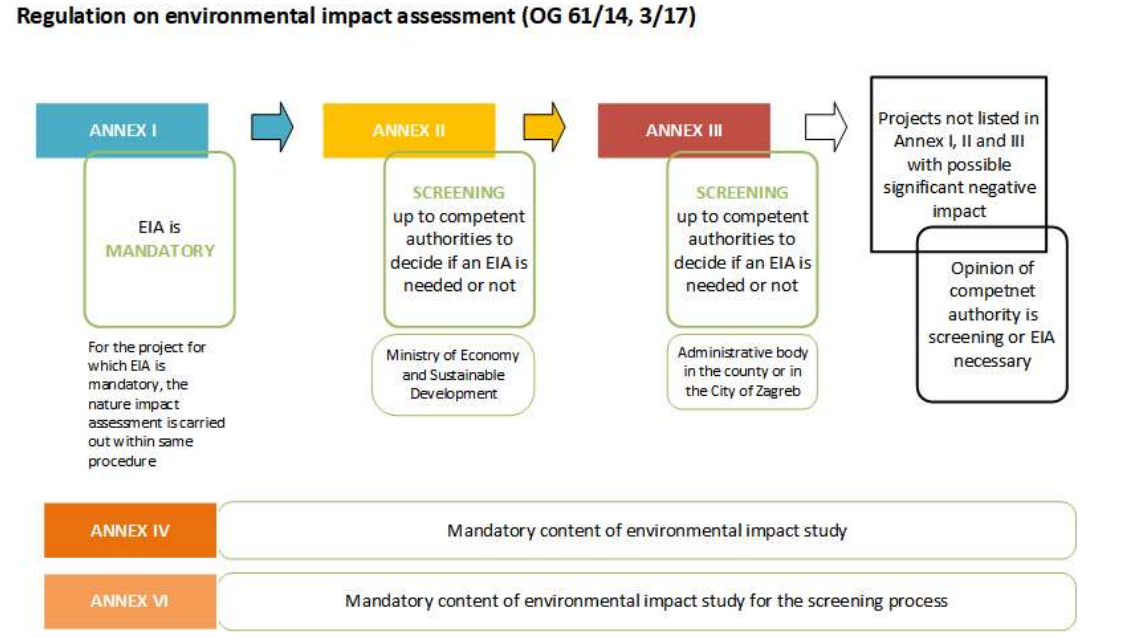


Figure 20. Obligations defined by Regulation on environmental impact assessment (OG 61/14, 3/17)

The EIA procedure comprises following steps:

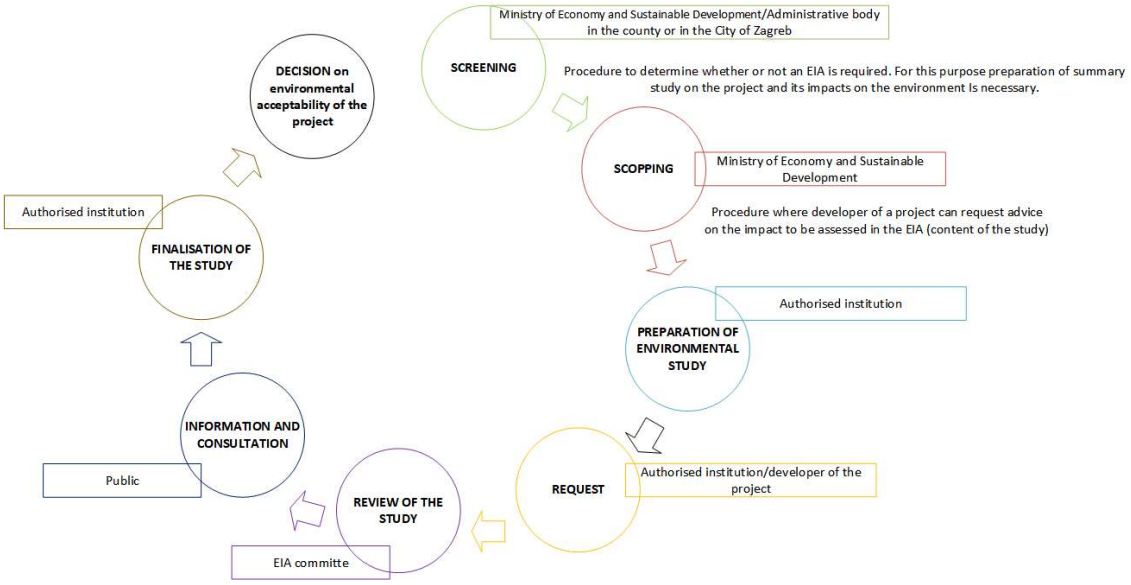


Figure 21. Environmental impact assessment procedure

Screening

Screening is conducted for the interventions defined by Annex II and Annex III of the Regulation on environmental impact assessment. Case-by-case analysis based on criteria defined in Annex V of the Regulation has to be carried out. As a result of this analysis decision is made: EIA needs to be carried out or EIA does not need to be carried out. Request for screening includes: information on the project developer (applicant), description of the location, description projects characteristics (considered alternatives), description of the likely significant effects of the project on the environment, proposal of environmental protection measures (if considered). Whether it is it possible to exclude the adverse impact of the project on the ecological network is also estimated during the screening process.

Scoping

Article 86 of the Environmental Protection Act grants the right to the developer of the project to request, from competed authority, the instructions on the content of the EIA study prior to its preparation. Competent authority carries out the consultation procedure with the relevant authorities and the public on the topic of the EIA Report content. Following the procedure's completion, the competent authority is required to issue an instruction (scoping opinion) on the content of the EIA Report. This instruction does not prevent the competent authority from asking for additional things to be included in the further stages of the EIA procedure. Scoping is not mandatory process.

EIA Report

In case the EIA procedure is necessary EIA Report must be prepared. For interventions for which EIA is not mandatory but instead screening has to be carried out, more simplified document (Screening Report) has to be prepared. For both documents mandatory content is defined in Annex IV and VII of the Regulation on environmental impact assessment. Documents have to be prepared by companies authorized for professional environmental protection activities.

Advisory expert committee/competent authority

During the EIA process special advisory expert committee is appointed by competent authority (Ministry/county offices/environmental experts) which gives its opinion on the acceptability of the project, proposes environmental protection measures and environmental monitoring programme. When project is not subject of EIA procedure, acceptability of the project is assessed by competent authority.

Informing the public

Competent authority has to inform the public on:

- screening: the request, the decision,
- scoping: the request, the instruction on content of environmental study
- EIA procedure: the request, the decision on submitting EIA Report for public debate, the decision on environmental acceptability of the project

The information is published on web pages of Ministry/county office and other appropriate way (public notices in the press, public notices on relevant notice boards, electronic media, written publications, etc.). Within the EIA procedure, public participation, including public debate, has to be organised for a minimum of 30 days.

Decision

As a result of EIA process decision on environmental acceptability is issued.

By the **Regulation on the ecological network and the competencies of public institutions for ecological network management** (OG 80/19) the ecological network of the Republic of Croatia (Natura

2000 network[102]) is defined. According to the Nature Protection Act, public institutions for the management of a national parks or nature parks and public institutions for the management of other protected areas and / or other protected parts of nature are responsible for management of NATURA 2000 sites. From the legal perspective, the Ecological Network (Natura 2000) Appropriate Assessment (ENAA) procedure can be carried out in two ways. Either it can be an independent procedure, or it is incorporated into the EIA procedure. For those projects for which EIA is necessary it is carried out within the EIA procedure and for the other projects as an independent procedure.

MoESD carries out ENAA for projects for which it is also competent authority within the EIA procedure and for project located at the territory of National Parks, Nature Parks or Special Reserves.

Administrative body in the county or in the City of Zagreb carries out ENAA for projects for which they are competent authorities within the screening procedure and for projects located at the territory of Regional Park, Significant Landscape, Park Forest, Nature Monument and Park Architecture Monument and those carried out in an area that is not at the same time protected area, except for projects for which MoESD is competent authority. Competent authorities deliver their outcomes in a form of binding decision.

Detailed overview of national procedure regarding EIA and protection of Natura 2000 network and protected parts of nature is given in ANNEX III and ANNEX IV.

4.1.5 Location and Building permitting process and financial arrangements for reconstruction of earthquake damaged buildings

In the Republic of Croatia designing, construction and construction works supervision is regulated by the Construction Act (OG 153/13, 20/17, 39/19, 125/19) and the Physical Planning Act (OG 153/13, 65/17, 114/18, 39/19, 98/19), by-laws based on these acts and technical regulations (detail list of legislation is available at: https://mgipu.gov.hr/pristup-informacijama/zakoni-i-ostali-propisi/88).

According to **Physical Planning Act**, the implementation document for interventions/projects defined in physical plans is a location permit, while under the Construction Act it is a construction permit. Ministry of Physical Planning, Construction and State Assets is competent authority for issuing: location permit for interventions planned by the national physical plan (except in nature park for which the permit is issued by the competent administrative body in the county), interventions defined by the special Regulation[103] and interventions that take place in the area of two or more counties and the City of Zagreb. For issuing location permits for other interventions, the county administrative body is responsible.

The **Construction Act** regulates the designing, construction, use and maintenance of construction works and the procedure and conditions for obtaining construction and use permit. By this Act essential requirements for health and occupational safety, environment protection and energy efficiency for construction works are defined. All construction works must be performed in such way to comply with these requirements.

Construction and use permits are issued by the MoPPCSA, the administrative bodies of large cities (over 35.000 inhabitants), the City of Zagreb and the county. The MoPPCSA may delegate the authority to issue an individual permit to the administrative body of the big city, the City of Zagreb or the county.

[102] The ecological network of the Republic of Croatia (Natura 2000 network) according to Article 5 of the Regulation consists of conservation areas important for birds - POP, conservation areas important for species and habitat types - POVS, probable conservation areas important for species and habitat types (vPOVS) and special areas of conservation important for species and habitat types (PPOVS).

[103] Regulation on the definition of construction works, other projects and surfaces of state and regional significance (OG 37/14, 154/14)

Procedure of issuing location, building and use permit according to Construction Act (OG 153/13, 20/17, 39/19) and the Physical Planning Act (OG 153/13, 65/17, 114/18, 39/19, 98/19) is given in ANNEX V and ANNEX VI.

Criteria and authority for declaring a natural disaster, assessment of damage, allocation of aid for mitigation and partial elimination of consequences resulting from natural disasters, Register of damages caused by natural disasters and other issues related to mitigation and partial elimination of consequences caused by natural disasters, is regulated by Act on Mitigation and Elimination of the Consequences of Natural Disasters (OG 16/19).

Register of damages caused by natural disasters is a digital database of all damages caused by natural disasters in Croatia. The content, form and submission of data in this Register is defined by the Ordinance on the Register of damages from natural disasters (OG 65/19).

The day after the earthquake, on March 23, 2020. the Mayor of the City of Zagreb adopted a Conclusion on declaring a natural disaster caused by an earthquake in the area of the City of Zagreb[104] On March 24 and 27 Decision on declaring natural disaster caused by earthquake was adopted by Zagreb County (for the whole County)[105] and Krapina-Zagorje County (for city Donja Stubica and municipality Gornja Stubica)[106]. On January 4, 2021, the Croatian Government declared a state of disaster for the following counties: Sisak-Moslavina, Zagreb, and Karlovac. Four counties declared a state of emergency (Sisak-Moslavina, Karlovac, Krapina-Zagorje, and Zagreb).

According to official instructions of the MoPPCSA[107] from July 3, the construction and other works are:

- Restoration of damaged buildings (construction of a "replica" of a destroyed and removed building or part of the building),
- Maintenance,
- Removal,
- Reconstruction,
- Construction of a completely new building that differs from the removed one.

Although, for aforementioned construction works, the Construction Act stipulates the obligation to obtain building permit, Articles 129 and 130 of this Act define an exception according to which in case of damage caused by natural disaster, the building can be returned to its original condition without obtaining a building permit. This have to be performed in accordance with the legal act/permit on the basis of which building was constructed, or in accordance with the project existing status (condition) of the building[108]. Also, it is necessary to comply with the **Technical Regulation for Building Structures** (OG 17/17,75/20) – further in document Technical Regulation. In June 2020, this Technical Regulation was amended by a provision which more precisely regulates the reconstruction after an earthquake (Article 24a). Furthermore, new Annex III defines the level of reconstruction of earthquake-damaged buildings in relation to mechanical resistance and stability for the City of Zagreb, as well as for Krapina-Zagorje and Zagreb counties. Annex III of Technical Regulation is given in ANNEX VII of this ESMF.

[104] https://www.zagreb.hr/zakljucak-o-proglasenju-prirodne-nepogode/156586

[105] https://www.zagrebacka-zupanija.hr/media/filer_public/62/9a/629ac179-67fc-4cbd-a252-39cd3c7b890f/sharpzagrebacka-zupanijahr_20200324_150028.pdf

[106] http://www.kzz.hr/sadrzaj/novosti/proglasenju-prirodne-nepogode-ds-gs/Odluka.pdf: https://www.zagrebacka-zupanija.hr/media/filer_public/25/7f/257fb285-b06b-4c96-98c3-e90c614fbb4c/odluka_o_proglasenju_nepogode_potres_27032020.pdf

[107] https://mgipu.gov.hr/UserDocsImages/dokumenti/Obnova_zgrada/2020_07_3_UPUTA-tehni%C4%8Dki-propis.pdf

[108] For buildings registered in Cultural Heritage Register it is necessary to obtain legal documents according to Act on the Protection and Preservation of Cultural Property (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20)

Without the construction permit, the removal of the building or its part can be carried out (Article 153 of the Construction Act), but it is necessary to have a project for the removal of the building. This applies only to buildings and works for which it is not necessary to obtain a building permit, as defined by the **Ordinance on simple and other construction works and works** (OG 112/17, 334/18, 36/19, 98/19, 31/20). This Ordinance defines simple and other buildings and works that can be built without a building permit in accordance with the main project and without main project, buildings that can be removed without a removal project. Also, this Ordinance defines the obligation to report the start of construction works and professional supervision of these buildings.

The **Ordinance on building maintenance** (OG 122/14, 98/19) regulates the maintenance of buildings, and in the context of eliminating the consequences of earthquake, it also represents extraordinary maintenance. This includes replacement, supplementation and/or filling of building parts after an extraordinary event, such as an earthquake, after which the building or its part is not usable. In this case the administrative procedure is simpler. Execution of extraordinary maintenance works can be based on project which may not change the technical solution in accordance with which the building was built. This means it is possible to start work without a building permit, and in accordance with the main project.

4.1.5.1 Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County

On September 11, 2020 Croatian Parliament adopted the Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County and Zagreb County. The Act came into force after publishing in Official Gazette on September 16, 2020. After the earthquake in Sisak and Petrinja in December 2021, this Act has been amended in order to include also Sisak-Moslavina County and Karlovac County.

Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (OG 102/20, 10/21, 117/21) (further in document Reconstruction Act) regulates: the procedure of reconstruction or removal of buildings in the area of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County, damaged or destroyed by the earthquake occurred on March 22, 2020 and December 28-29, 2020, manner of housing persons affected by the earthquake (including construction of replacement private houses), the competent authorities and deadlines for these actions, and all other related issues.

Regarding the reconstruction of earthquake damaged buildings, by adoption of Reconstruction Act certain provisions from existing legislation regulating construction works and provisions of Act on Mitigation and Elimination of the Consequences of Natural Disasters (financial assistance) are suspended.

Implementation of activities defined by Reconstruction Act will be co-financed by the Republic of Croatia, City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County.

For the purpose of reconstruction of earthquake damaged area and assisting the owners or co-owners of damaged and destroyed multi-dwelling buildings, residential and commercial buildings, business buildings and family houses, Reconstruction Act defines:

- Reduction and simplification of legally required documentation/procedure and thus time necessary for reconstruction (in comparison to a regular legal procedure), costs reduction by ensuring co-financing of this procedure by the Republic of Croatia, City of Zagreb, Krapina-Zagorje, Zagreb county, Sisak-Moslavina County and Karlovac County
- Establishment of the Fund for Reconstruction of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (Reconstruction Fund),
- Organization and implementation of reconstruction of earthquake damaged buildings (including financial support) by: complete reconstruction of the building and construction structure, structural reinforcement and repair of construction structure, repair of non-structural elements, or removal of destroyed buildings,
- Construction of replacement family houses with financial assistance by the Republic of Croatia, City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County
- Financial assistance for the temporary protection of buildings from the effects of the atmosphere and the removal and adherence of dangerous parts of buildings that could endanger human life or health (repair or replacement of chimneys and gable walls and the repair of stairs and elevators),
- Financial assistance for the works on the reconstruction of damaged buildings for owners and co-owners who renovate buildings by themselves,
- Possibility for owners and co-owners of buildings to perform structural reinforcement above the level of renovation defined by the Technical Regulation for Building Structures (OG 17/17, 75/20), and to carry out a complete renovation of the building, by paying the difference in costs,
- Temporary and permanent housing for persons affected by the earthquake by renting or providing ownership on the real estate.

In addition to the Reconstruction Fund according to Reconstruction Act, establishment of a special advisory body - the Professional Council for the Renewal is planned. Council will perform professional consulting activities related to the implementation of the Reconstruction Act. This Council will consist of representatives of state officials, the City of Zagreb, representatives of professional and educational institutions such as the Faculty of Civil Engineering, the Faculty of Architecture, members of the Croatian Chamber of Civil Engineers, Croatian Chamber of Architects, Institute of Economics, etc.

4.1.5.2 Technical requirements and arrangements defined by the Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County related to Component 1 and Component 2 of the project

The Reconstruction Act defines that Government of the Croatia will adopt different sub-laws - programs of measures and reconstruction activities, by which activities of renovation or removal of damaged buildings, construction of replacement family houses and housing of people affected by the earthquake will be defined in more details. These programs will define: the location of the area where the earthquake recovery measures will be implemented and if necessary zonation of the earthquake damaged area, analysis of the existing condition and the resulting damage, assessment of possible further harmful consequences, the organizational structure and the competent bodies for the implementation of individual measures, deadlines for implementation, criteria for selection of initial participants in the reconstruction (operational coordinators, designers, auditors and the provider of technical and financial control, contractors and supervising engineer, etc), conservation guidelines for

buildings that are not individually protected cultural heritage and those buildings that are not completely renovated, procedure for submitting the request for reconstruction, etc.

For the area of the historical urban entity of the City of Zagreb, preparation of program for complete restoration of the historical urban entity of the City of Zagreb is foreseen. This program will be prepared by Institute for Physical Planning of the City of Zagreb.

As anticipated, in October 2020, Decision on the Adoption of the First Program of Measures for the Reconstruction of Buildings Damaged by Earthquakes in the Area of the City of Zagreb, Krapina-Zagorje County and Zagreb County (OG 119/20) is adopted. The Program has been renewed two times – first in February 2021, and again in September 2021 (valid one). The Decision on the Adoption of the Programme Reconstruction of Buildings Damaged by Earthquakes in the Territory of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County is published in Official Gazette No. 17/2021.

This Program determines the measures for renovation of public buildings, multi-dwelling buildings, office buildings, residential and commercial buildings and family houses in the territories of City of Zagreb, Zagreb County, Krapina-Zagorje County, Sisak-Moslavina County and Karlovac County. This includes measures, guidelines and criteria for: public procurement, analysis of the current situation and damages incurred and prediction of possible further harmful consequences with damage assessment, assessments of renovation costs, criteria for conduction renovation of damaged buildings (competent authorities and their responsibilities, responsibilities of contractors (supervision engineers, technical designs, etc.), priorities and deadline for renovation, conservation guidelines for buildings which are not individually protected cultural properties and which are not renewed in full, process for submitting official request for renovation and removal of buildings damaged by earthquake, applying for financial assistance, etc.

Reconstruction Act regulates renovation of:

- Public buildings,
- Multi-dwelling buildings,
- Office buildings,
- Residential and commercial buildings,
- Family houses.

Provisions of Reconstruction Act apply also, after meeting certain legal conditions, on buildings which are in the process of legalization and to illegal build objects.

According to Article 16 earthquake damaged buildings, depending on their purpose and degree of damage, shall be renovated by:

1. Repairing non-structural elements
2. Repairing the construction
3. Reinforcing the construction
4. Complete reconstruction of the building construction
5. Complete reconstruction of the building.

Table 11. Overview of type of damaged buildings and methods for their recovery according to Reconstruction Act

Type of damaged building (Article 15 of the Reconstruction Act)	Application of damaged buildings renovation methods depending on type of damaged building (Article 16 of the Reconstruction Act)
Public buildings	**Complete reconstruction of the building.** The same applies to business premises and other special parts of buildings intended for the performance of educational or health activities.
Multi-dwelling buildings	**Repair of non-structural and structural elements, reinforcing the structure and complete reconstruction of the building**[109] If building is individually protected cultural heritage then shall be restored by complete reconstruction of the building, except for their special parts (apartments, business premises and other special parts of the building) in which no final construction works are performed
Office buildings	**Repair of non-structural and structural elements, reinforcing the structure and complete reconstruction of the building.** If building is individually protected cultural heritage then shall be restored by complete reconstruction of the building, except for their special parts (apartments, business premises and other special parts of the building) in which no final construction works are performed
Residential and commercial buildings	**Repair of non-structural and structural elements, reinforcing the structure and complete reconstruction of the building.** If building is individually protected cultural heritage then shall be restored by complete reconstruction of the building, except for their special parts (apartments, business premises and other special parts of the building) in which no final construction works are performed
Family houses	**Repair of non-structural and structural elements, reinforcing the structure and complete reconstruction of the building.** If building is individually protected cultural heritage then shall be restored by complete reconstruction of the building, except for their special parts (apartments, business premises and other special parts of the building) in which no final construction works are performed
Description of damaged buildings renovation methods depending on their purpose and degree of damage (Article 3 and Article 16 of the Reconstruction Act)	
Repair of the non-structural elements	Repair of non-structural elements is the repair or replacement of non-structural elements of a building (roof, gables, parapets, partition walls, chimneys, elevators, etc.) specified in the Technical Regulation
Repair of the construction	Construction repair is the performance of repair and reinforcement works of an earthquake-damaged construction structure of a building, by which the mechanical resistance and stability of the building in relation to seismic activity in accordance with the Technical Regulation, is achieved.
Construction reinforcement	Construction reinforcement is the performance of reinforcement works of an earthquake-damaged construction structure of a building by which an increase in the mechanical resistance and stability of the building in relation to seismic activity in accordance with the Technical Regulation, is achieved.
Complete reconstruction of the construction	Complete reconstruction of the structure is the performance of works to strengthen the earthquake-damaged construction structure of the building by which the mechanical resistance and stability of the building in relation to seismic activity in accordance with the Technical Regulation is achieved.
Complete reconstruction of the building	Complete reconstruction of the building means complete renovation of the building structure and execution of the necessary preparatory, construction, final and installation works, i.e. works that bring the building into a state of full construction usability to the level required by applicable regulations and related standards, as well as professional rules. In addition to other necessary works, if necessary, complete renovation of the building include the repair of non-structural elements, repair of the structure, reinforcement of the building structure and / or complete renovation of the structure.

[109] Complete reconstruction of the building shall be performed upon request of the owner or co-owner if they commit to pay the difference between complete reconstruction of the building and costs of repairing non-structural and structural elements and construction reinforcing (same applies for office buildings, residential and commercial buildings, and family houses)

Renovation of the buildings must be carried out according to the levels of reconstruction as defined by Technical Regulation for Building Structures (OG 17/17,75/20).

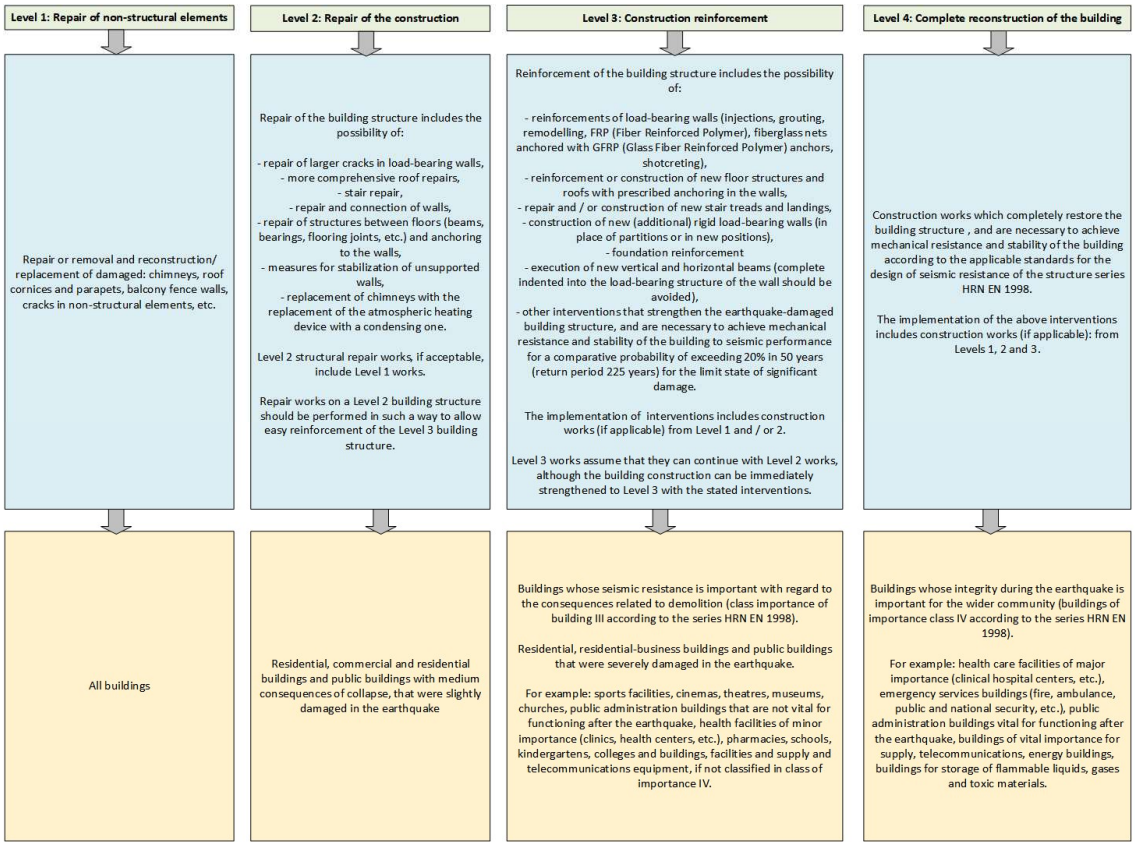


Figure 22. Levels of reconstruction of earthquake damaged building structures in relation to mechanical resistance and stability according to Technical Regulation for Building Structures (OG 17/17, 75/20)

Annex III of Technical Regulation is given in ANNEX VII of this ESMF.

The owner or co-owners of a building may, in the process of making a decision on renovation, request the design and execution of reinforcement of the building construction that is above the level defined by Technical Regulation if they commit to cover the cost difference.

Damaged buildings must be renovated based on project of reconstruction of the building structure[110] and project of the complete reconstruction of the building. While preparing these projects the provisions of existing construction regulations governing the issue of meeting the basic requirements for construction in the main project must apply. In the case that building is an individually protected cultural heritage or located in the historic urban entity of the City of Zagreb, projects must be prepared in accordance with special conditions determined by the competent body (in accordance with the regulations governing the protection of cultural heritage).

The renovated building may be used after receiving the final report of the supervising engineer and a written statement of the contractor on the work performed and maintenance conditions. The

[110] The project of reconstruction of the building structure designs the repair of the structure, reinforcement of the structure and / or complete reconstruction of the structure and, if necessary, repair of non-structural elements.

renovated building for which the final report has been prepared shall be considered, in terms of construction regulations, an existing building for which a valid use permit has been issued.

According to Reconstruction Act buildings that have lost their mechanical resistance and / or stability to the extent that they have collapsed or that their renovation is not possible (destroyed buildings), shall be removed. For the removal of a building that is a cultural heritage, or a building located within the historical urban entity of the City of Zagreb, the consent of the competent body for cultural heritage must be obtained. For the removal activities the consent of the owner or all co-owners of the building, has to be obtain or it can be performed in accordance with the regulations governing construction inspection. The destroyed buildings must be removed in accordance with the removal project which has to be prepared in accordance to construction regulation. Removal project must have a report on the auditor's control related to meeting the basic requirements of mechanical resistance and stability.

4.1.5.3 Financial arrangements defined by the Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County

The implementation of Reconstruction Act will be financed by:

- the state budget,
- the budgets of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County,
- the owners or co-owners of real estate
- funds from other sources obtained in accordance with special regulations and other forms of financing.

The shares of different sources of funding are variable depending on the purpose or status of use of the real estate (for living (owner lived in the building), buildings in which economic activity is performed etc.).

Furthermore, the Reconstruction Act incorporates social criteria, i.e. income and property census. Citizens whose houses and apartments were damaged in the earthquake, and they are at a minimal wage and do not have significant property, the state/local self-government unit /regional self-government units will fully finance the construction renovation of real estate. Construction renovation for the disabled, people who live with disabled persons and social welfare beneficiaries receiving maintenance assistance will also be fully funded.

Also, the Reconstruction Act defines the cases in which a replacement family house is being built where instead of building a replacement family house, the owner can choose to pay financial assistance for eligible costs, which cannot be higher than the estimated construction value of the house to which the owner is entitled.

Criteria for temporary accommodation are also defined, if during the renovation or construction of a replacement building there are no suitable housing conditions. In these cases, the state / local self-government unit / regional self-government units will give in rent apartments of appropriate size, and if necessary, provide temporary accommodation at their own expense until the apartment is rented out.

Croatia plans to renovate all damaged buildings using public budget (state, regional, local) according to the Reconstruction Act different:

- Construction and renovation of family houses, business, residential and commercial and multi-dwelling buildings as well as the construction of replacement family houses that are unusable or temporarily unusable, including the costs of temporary storage of things will be financed from state and county budget.
- Removal of buildings that have lost their mechanical resistance and stability to the extent that they have collapsed or that their restoration is not possible, and which will be removed on the basis of Reconstruction Act will be financed from state budget.
- Renovation of office buildings and parts of buildings in which economic activity is performed will be financed in accordance with the State Aid Act (OG 47/14, 69/17).

4.1.5.4 Legal procedure for initiating reconstruction or removal of the earthquake damaged buildings and implementation steps

Renovation or removal of damaged buildings, construction of replacement family houses, payment of financial assistance for temporary protection of a building, financial assistance for renovation and financial assistance instead of construction of a replacement family house shall be carried out on the basis of a decision issued by the MoPPCSA. This decision shall be made in accordance with the program of measures, taking into account determined condition of the building and other facts established in the procedure.

The procedure for making a decision on the renovation or removal of a damaged multi-dwelling buildings, residential-commercial buildings shall be initiated at the request of the building manager or the representative of the co-owner.

The procedure for making a decision on the renovation or removal of office buildings and family houses (including construction of a replacement family house) shall be initiated at the request of the owner or co-owner of the building.

If the owner, co-owner or manager does not submit a request for a decision on renovation and does not submit the consent of the majority of co-owners, or the owner is unknown or unknown residence, the building shall be treated in accordance with regulations governing construction inspection.

The procedure for making a decision on financial assistance for temporary protection of a building shall be initiated at the request of the manager or representative of the co-owner of an multi-dwelling building and a residential-commercial building or at the request of the owner or co-owner of a business building or family house.

Renovation or removal of a public buildings shall be carried out on the basis of a decision of the owner and / or founder or legal person or body to which the building has been given for management. Decision must be made in accordance with the Program of measures. The decision shall be implemented and financed by the owner of the public building and / or the founder or legal entity or body to which the building is managed, through a certified architect, certified civil engineer or contractor, or legal entity or body to which the building is given for management in the same manner, if the owner of the building so decides.

The implementation of the renovation of buildings, removal of buildings and construction of replacement family houses include following:

1. Selection of certified civil engineers and certified architects or companies in which they are employed, and who prepare required projects
2. Selection of the auditor who prepares the project control report
3. Selection of contractors
4. Selection of a supervising engineer who carries out construction supervision
5. Selection of the provider of technical and financial control of the project
6. Concluding and monitoring the implementation of the contract on works referred to in items 1 to 6 and entering data on reconstruction in the network application of the MoPPCSA
7. Taking over the building from the contractor and handing it over to the owner or co-owners together with the technical documentation
8. Other necessary actions.

The decision on the renovation or removal of the building and the construction of a replacement family house shall be implemented after the technical and financial control procedure of the project has been carried out.

4.1.6 Protection of cultural heritage

Historical buildings, cultural and historical entities and landscapes are protected as cultural heritage by the Act on the Protection and Preservation of Cultural Property (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20, 117/21) – further in text Act on Cultural Heritage. Competent authority is Ministry of Culture and Media.

Among other, this Act defines types of cultural property, and protection and preservation of cultural heritage.

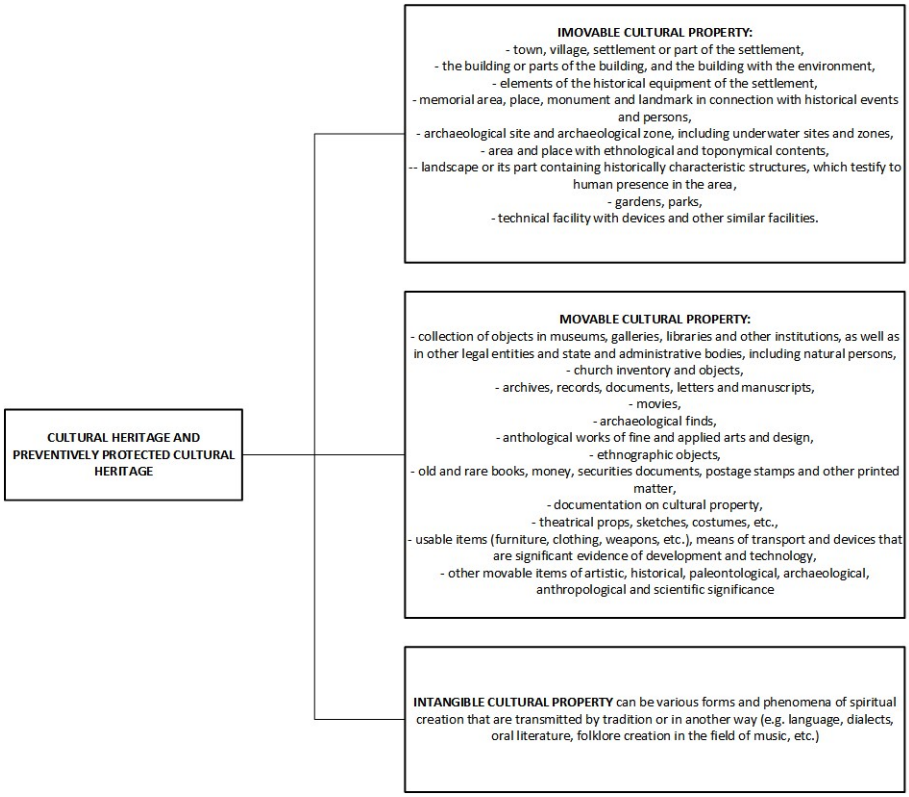


Figure 23. Types of cultural property according to Act on the Protection and Preservation of Cultural Property (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20, 117/21)

Also, Republic of Croatia ratified following international conventions:

- Act on the Ratification of the Convention on the Protection of Underwater Cultural Heritage (OG International Conventions 10/04),
- Convention for the Protection of the Architectural Heritage of Europe, Granada, 1985 (OG International Conventions 6/94),
- Convention on the protection of cultural goods in the event of armed conflict and its Protocol relating to the prohibition on exports of cultural goods from occupied territories (OG, International Conventions, 12/93, 6/02 promulgation),
- Act on the Ratification of the UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects, drawn up in Rome, 24 June 1995 (OG, International Conventions, 5/00, 6/02 promulgation),
- Act on the Ratification of the European Convention on the Protection of Archaeological Heritage (revised), 1992, drawn up in Valetta, 16 January 1992 (OG International Conventions, 4/04 and 9/04 promulgation),
- Act on the Ratification of the Convention on the Protection of Intangible Cultural Heritage (OG International Conventions 5/05, 5/07 promulgation),
- UNESCO Convention on Measures to Protect and Prevent Unauthorised Imports, Exports and Transfer of Cultural Goods (OG International Conventions, 12/93),
- Convention on the Protection of World Cultural and Natural Heritage (OG International Conventions, 12/93: adopted in Paris, 1972). The Republic of Croatia became a party to the

Convention pursuant to the notification of succession of 8 October 1991 (Entered into force on 8 October 1991),

- Regulation on the promulgation of the Agreement between the Government of the Republic of Croatia and the Government of the United States of America on the protection and preservation of certain cultural goods (OG International Conventions, 9/06, 2/07 promulgation),
- Act on the Ratification of the Second Protocol to the Convention on the Protection of Cultural Goods in the Event of Armed Conflict (OG International Conventions 11/05)
- Act on the Ratification of the Framework Convention of the Council of Europe on the value of cultural heritage to society (OG International Conventions 5/07),
- Regulation on the Ratification of the Treaty between UNESCO and the Government of the Republic of Croatia on the Establishment of the Regional Centre for Underwater Archaeology in Zadar, Croatia, as a Category II Centre under the auspices of UNESCO (OG 1/09),
- Act on the Ratification of the Convention on European Landscapes (OG International Conventions 12/02),
- Regulation on the promulgation of the Treaty between the Government of the Republic of Croatia and UNESCO regarding the continuation of activity of the Regional Centre for Underwater Archaeology in Zadar, Croatia, as a Category II Centre under the auspices of UNESCO (OG International Conventions 5/16)

The Ministry of Culture and Media, based on official decision, determines the cultural heritage, and defines protection measures and the obligation to sign in the Cultural Heritage Register.

In the Cultural Heritage Register of the Ministry of Culture and Media it is possible to check whether a certain building/area/item is protected as a cultural heritage: https://registar.kulturnadobra.hr/.

This information can also be requested from the Conservation Department of the Ministry of Culture and Media (conservation departments are organized by counties).

In the case that certain property of local significant is not determinate under protection as a cultural property (as defined by Act on Cultural Heritage) a representative body of the county, City of Zagreb or municipality may declare it as a protected, if it is located in their territory.

Protection of the cultural heritage is also part of physical planning process and building permitting process, regulated by Construction Act and Physical Planning Act.

According to Act on Cultural Heritage, spatial planning documents, depending on the type and area that planning documents cover, must contain data from the conservation base[111] , along with a set of measures for the protection of immovable cultural property located in the area covered by the plan. The conservation base is determined by the competent authority for the area covered by the spatial plan, and it contains general and special conditions for the protection and preservation of cultural property, boundaries of the contact zone of cultural property and the method of protection in the contact zone. In the case that the competent authority has not determined the conservation base, it is obliged to determine the system of measures for the protection. The spatial planning document may be adopted only with the prior consent of the competent authority confirming that it is in accordance with the conservation base or the established system of protection measures. **For the**

[111] According to Act on Cultural Heritage definition of conservation base is: professional documentation that contains a graphic and textual part, and includes identification, analysis of the situation, valorisation of the situation and measures for the preservation of cultural and historical values

cultural-historical entities/area[112], it is obligatory to prepare conservation base, which also includes the area of the contact zone.

According to Act on Cultural Heritage for work performance on cultural heritage, it is necessary to obtain prior approval from the competed body[113]. Obtaining prior approval is regulated by the Ordinance on Documentation for Prior Granting of Works on Cultural Property (OG 134/15). Obtaining this approval is an integral part of the location and building permitting processes. It is also necessary to obtain this approval for interventions that can be performed only on the basis of the main project or without main project.

For projects/interventions for which location permit is required, for the purpose of conceptual design preparation, the competent body (see Footnote 113), at the request of the competent body for issuing location permit, determines special conditions for protection of cultural heritage. Special conditions established for the purpose of making the conceptual design can be used to prepare the main design required for the issuance of a building permit. During the building permitting process, the compliance of the main project with special conditions (i.e. special conditions for protection of cultural heritage determined by location permit) are checked and certificate that the main project is prepared in accordance with the special conditions for the protection of cultural heritage must be issued.

For complex interventions on cultural heritage[114] for which it is necessary to conduct preliminary research and / or assessment of the impact on cultural heritage the competent authority is authorized to determine the special conditions in a form of conservation study.

For the construction of simple and other buildings and works[115] within the cultural-historical entity/area, on an individual cultural property, as well as works in the area within the boundaries of the cultural property, which can be performed without location / building permit, in accordance with the main design, before commencement of the work it is necessary to obtain special conditions for the protection of cultural heritage. For the projects/interventions that can be performed without location/building permit and without main design it necessary to obtain prior approval from the competent body (if necessary competent body will determine special conditions). Prior approval is also issued for: conservation, restoration, relocation of cultural heritage and other similar works, operation of industrial and other facilities and sites, rehabilitation and adaptation of cultural heritage etc.

More details regarding cultural heritage protection within building permitting process, as defined by Act on Cultural Heritage, is given in ANNEX VIII.

[112] Protection of cultural and historical entities is defined by Act on the Protection and Preservation of Cultural Property: „cultural-historical entity is considered to be a settlement or part of a settlement, as well as an area, which are protected as a cultural good

[113] Conservation Department of the Ministry of Culture and Media, and for the City of Zagreb the City Institute for the Protection of Cultural and Natural Monuments in Zagreb

[114] A more complex intervention is an intervention that refers to several developmental historical layers of a building (construction and stylistic) that are not visible in the existing condition or it is an intervention on a building made by complex application of several different materials, which is not documented to protect and preserve cultural heritage under Act on Cultural Heritage.

[115] Simple and other construction works and works defined by Ordinance on simple and other construction works and works (OG 112/17, 34/18, 36/19, 98/19,31/20). Works that can be performed: a) without location/building permit and without main design, b) without location / building permit, in accordance with the main design / standard design, c) in the event of construction damage when people and assets are directly in danger, without building permit construction can be restored to the original condition in line with the act according to which it was built or the by project of the existing condition (see ANNEX VIII of this ESMF)

According to the Croatian cultural heritage protection practice, the building/constructing permit usually contains provision about the possibility to find and protection of cultural heritage (if any), particularly if the planned activities are related to the digging and other e.g. restoration (of old buildings).

In case that during the construction works some valuable object/s appear at the construction site, construction works will be stopped, and conservators informed. They will come at construction site, evaluate situation and decide about the following procedure. Depending on the site, the works can be continued with additional measures to protect archaeological sites or conservation conditions, but in the event that it is not possible to adequately protect the site, the works can be permanently suspended.

According to the Construction Act, the supervising engineer checks whether works are being carried out in accordance with the construction permit, the main project and the applicable regulations and thus controls the measures and conditions related to the protection of cultural assets.

According to Article 75. of the Cultural Heritage Act in the event of the occurrence or declaration of extraordinary circumstances, the Ministry of Culture and Media will make an inventory of damage to cultural property, in cooperation with local and regional self-government units in whose areas the cultural property is located and enter damage to cultural property in the Register of damages caused by natural disasters [116]. In order to mitigate and eliminate the damage to cultural property, the Minister of Culture and Media will develop and adopt a program of measures for the protection of cultural property in cooperation with local and regional self-government units. I accordance with this, Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (OG 102/20, 10/21, 117/21 foresees the preparation of the program for complete restoration of the historical urban entity of the City of Zagreb is foreseen , as well as cultural and historical entities within the territories of Sisak-Moslavina and Karlovac counties.

4.1.7 Protection of landscape

No specific law or regulation/ordinance that regulate landscape issues were adopted in Croatia. Some sectoral approaches, such as the protection of cultural heritage and protection of nature and the environment, partly include landscape issues, while spatial planning is recognized as a common and integrative instrument of its protection.

Integrated approach and an important degree of landscape protection in Croatia has been formally established by the Acceptance of the European Landscape Convention Act (OG 12/2002). Legal protection of the landscape, aligned with the EU Environmental Acquis as the rest of the national legislation, is also covered by:

- Physical Planning Act (OG 153/13, 65/17, 114/18, 39/19, 98/19),
- Environmental Protection Act (OG 80/13, 153/13, 78/15, 12/18, 118/18),
- Nature Protection Act (OG 80/13, 15/18, 14/19, 127/19),

[116] Register of damages caused by natural disasters is a digital database of all damages caused by natural disasters in Croatia. The content, form and submission of data in this Register is defined by the Ordinance on the Register of damages from natural disasters (OG 65/19)

- Act on the Protection and Preservation of Cultural Property (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20, 117/21).

Three Ministries: Ministry of Economy and Sustainable Development, Ministry of Culture and Media and the Ministry of Physical Planning, Construction and State Assets are responsible for landscape care.

Both spatial planning and environmental systems are the main tools for landscape conservation. Spatial planning documentation includes landscape issues. Environmental Impact Assessment as well as Strategic Environmental Assessment are the tools that ensures measures for interventions and strategic and planning documents in order to avoid or mitigate potential adverse impacts on landscape.

5 OVERVIEW OF THE WORLD BANK ENVIRONMENTAL AND SOCIAL STANDARDS

5.1 Environmental and Social Framework

The World Bank developed an Environmental and Social Framework (ESF) setting out the World Bank's commitment to sustainable development through application of Bank Policy (defined in the ESF) and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity.

The Environmental and Social Standards (ESS) set out the mandatory requirements that apply to the Borrower and projects. They present set of obligatory guidelines and instructions with the main objective to foster efficient and effective identification and mitigation of potentially adverse environmental and social impacts that may occur in the development projects, with proper stakeholder engagement and sustainable management. **WB ESS, supported by WB Group Environmental, Health and safety Guidelines (ESHG) are applied in parallel to the national policies where, as a rule, the stricter one prevails.** There are ten (10) ESS.

Each of the ESSs sets out a number of objectives. The objectives describe the outcomes that each of the ESSs is intended to achieve.

In some circumstances, the Borrower will identify certain risks and impacts as part of the environmental and social assessment that are not specifically covered in the ESSs; such risks or impacts have to be addressed in accordance with the mitigation hierarchy[117] and the objectives of ESS1.

Not all of these ten ESS are relevant for this project, but ESS1, ESS2, ESS3, ESS4, ESS6, ESS8 and ESS10 are. The summary of the Environmental and Social Standards are described below.

World Bank Group Environmental, Health, and Safety Guidelines (EHSG)[118] are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). They are living documents and are occasionally updated. The General EHSG contain information on cross-cutting environmental, community health and safety, occupational health and safety and construction and decommissioning issues potentially applicable to all industry sectors and it should be used together with the relevant Industry Sector Guideline(s)[119].

The applicability of the EHSG should be adjusted to the hazards and risks determined for each project on the basis of the results of an environmental assessment in which site-specific variables, such as country context, assimilative capacity of the environment, and other project factors, are taken into account.

When country regulations differ from the levels and measures presented in the EHSG, projects are expected to achieve whichever is more stringent. If less stringent levels or measures than those provided in these EHSG are appropriate, in view of specific project circumstances, a full and detailed

[117] (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) Once risks and impacts have been minimized or reduced, mitigate; and (d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.

[118] https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p

[119] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines#IndustryEHS

justification for any proposed alternatives is needed as part of the site-specific environmental assessment.

The General EHS Guidelines are organized as follows:

Environmental	• Air Emissions and Ambient Air Quality • Energy Conservation • Wastewater and Ambient Water Quality • Water Conservation • Hazardous Materials Management • Waste Management • Noise • Contaminated Land
Occupational Health and Safety	• General Facility Design and Operation • Communication and Training • Physical Hazards • Chemical Hazards • Biological Hazards • Radiological Hazards • Personal Protective Equipment (PPE) • Special Hazard Environments • Monitoring
Community Health and Safety	• Water Quality and Availability • Structural Safety of Project Infrastructure • Life and Fire Safety (L&FS) • Traffic Safety • Transport of Hazardous Materials • Disease Prevention • Emergency Preparedness and Response
Construction and Decommissioning	• Environment • Occupational Health & Safety • Community Health & Safet

Detailed overview of WB Environmental and Social Standards (ESS) is available on web site: https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards).

WHO advice for the public, including on social distancing, respiratory hygiene, self-quarantine, and seeking medical advice, can be consulted on this WHO website: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public and technical guidance - Coronavirus disease (COVID-19) is available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance

In this chapter summary of World Banks ESS and results of preliminary screening conducted during project preparation is presented. Detail information on necessary WB instruments/documents, resulting from environmental and social screening impacts conducted as a part on this ESMF, are presented in Chapter 8.1.1, while risk classification of activities that standards apply to in the Chapter 2.6.

5.2 ESS1 Assessment and Management of Environmental and Social Risks and Impacts

ESS1 applies to all projects which are supported by the Bank through Project Financing (IPF) and to which OP/BP10.00 applies. It sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through IPF, in order to achieve environmental and social outcomes consistent with the ESSs.

The Bank classifies a proposed projects depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental and social risks and impacts, into one of four categories:

- Projects with high risk,
- Projects with substantial risk,
- Projects with moderate risk,
- Projects with low risks.

Other areas of risk may also be relevant to the delivery of environmental and social mitigation measures and outcomes, depending on the specific project and the context in which it is being developed. These could include legal and institutional considerations; the nature of the mitigation and technology being proposed; governance structures and legislation; and considerations relating to stability, conflict or security.

Within ESS1, the Borrower is obliged to:

- Conduct environmental and social assessment of the proposed project (and its activities), including stakeholder engagement,
- Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10,
- Develop an Environmental and Social Commitment Plan (ESCP) and implement all measures and actions set out in the legal agreement including the ESCP. ESCP presents one summary document that incorporates the material measures and actions that are required for the project to achieve compliance with the ESSs over a specified timeframe in a manner satisfactory to the World Bank. The ESCP should be developed as information regarding the potential risks and impacts of the project, it will take into account the findings of the environmental and social assessment, the Bank's environmental and social due diligence and the results of engagement with stakeholders.
- Conduct monitoring and reporting on the environmental and social performance of the project against the ESSs.

Depending on the project, a range of instruments can be used to satisfy the Bank's Environmental and Social Assessment (ESA) requirement: environmental impact assessment (ESIA), regional or sectorial EA, Environmental and Social Commitment Plan (ESCP) – material measures and actions required for the project to achieve compliance with the ESSs over a specified timeframe, strategic environmental and social assessment (SESA), environmental audit, hazard or risk assessment, environmental management plan (EMP) and environmental and social management framework (ESMF). ESA applies one or more of these instruments, or elements of them, as appropriate. When the project is likely to have sectorial or regional impacts, sectorial or regional ESA is required.

ESS1 requires WB ESF application also on associated facilities and would also explain what are associated facilities, meaning "*facilities or activities that are not funded as part of the project and are: (a) directly and significantly related to the project; and (b) carried out, or planned to be carried out, contemporaneously with the project; and (c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist.*" For facilities or activities to be Associated Facilities, they must meet all three criteria.

According to the World Bank criteria Croatia Earthquake Recovery and Public Health Preparedness Project (Component 1 and 2) falls into the category of projects with substantial environmental and social risk.

This Standard is relevant to the overall Project and for the Component 2, subject of this ESMF.

Although the long-term impacts of the Component 2 – Public Health Surveillance and Preparedness are likely to be positive, its activities also carry certain risks. Planned civil works on public health laboratories carry risks typical for small-scale construction works: operational health and safety and community safety risks, dust and noise emissions, traffic disruption, generation of large quantities of construction waste, exposure of workers and building occupants to hazard materials (e.g. waste paint and varnishes); unsafe working conditions; and poor occupational health and safety practices. Expected impacts from these activities will be typical for construction works, therefore mostly predictable and readily mitigated, localized, impacts that include, but are not limited to: emission or dust, emission of noise, waste water, construction waste and risks to workers (OHS).

No major adverse social impacts are expected under Component 2. Adequate measures will be taken ensuring that vulnerable groups have access to services. In the event of a public health outbreak, systems are in place to prepare risk communications materials focusing on behavioral and sociocultural risks and preventive measures, given the nature of the outbreak, using a variety of media such as broadcast media (television and radio), audiovisuals, and a toll-free call-in number. The provision of services and supplies will be based on the urgency of the need, in line with the latest data related to the prevalence of the relevant public health outbreak and the associated cases. In addition, the MoH will put in place adequate measures to ensure that the medical isolation of individuals does not increase their vulnerability, especially to gender-based violence and sexual exploitation and abuse.

No involuntary resettlement impacts are anticipated as all civil works will be carried out within their existing footprints and no resettlement, land acquisition, or permanent restrictions to access are expected.

Within this standard the Borrower will prepare appropriate instruments to be used for specific sub-projects (most likely ESMP Checklists template available in the ANNEX X - ESMP CHECK LIST TEMPLATE, Infectious Control and Waste Management Plan – template available in the ANNEX XIII). Measures shall be implemented within specified timeframe and the status of implementation will be reviewed as part of project monitoring and reporting.

ESMF and site-specific environmental and social assessment documents (ESMPs and/or ESMP checklists) will be timely and appropriately disclosed and discussed with public. ESMF will include a template for the ICWMP to be adopted and implemented by all intensive care units (ICUs) and laboratories supported by the project.

These site-specific documents will constitute an integral part of bidding documents for contractors. Detail information on necessary instruments/documents, resulting from environmental and social screening impacts, are presented in Chapter 8.1.1.

Draft versions of the ESCP and is prepared and will be further developed in parallel with the ESMF development.

5.3 ESS2 Labor and Working Conditions

Labor and working conditions or **ESS2** recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

Main objectives of this standard are following: to promote safety and health at work; to promote the fair treatment, non-discrimination and equal opportunity of project workers; to protect project workers, including vulnerable workers such as women, persons with disabilities, children (working age) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate; to prevent the use of all forms of forced labor and child labor; to support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law; to provide project workers with accessible means to raise workplace concerns.

Measures relating to OHS are aimed at protecting project workers from injury, illness, or impacts associated with exposure to hazards encountered in the workplace or while working. Such measures take into account the requirements of ESS2 and national law requirements on OHS and workplace conditions as they apply to the project. Appropriate OHS measures are incorporated into the design and implementation of the project to prevent and protect workers from occupational injuries and illness.

This Standard is relevant to the overall Project and for the Component 2, subject of this ESMF.

Under Component 2 activities, the project footprint is relatively small and does not entail a significant amount of labor as the repair and rehabilitation works are expected to be small to medium scale.

Project workers will include direct workers including MoH and MoPPCSA staff who will be a mix of civil servants and consultants and contracted workers including employees of the contractors and their subcontractors.

Primary supply workers are those that work for companies involved in the provision of medical supplies and equipment, PPE, chemicals, reagents etc. Workers in health care facilities, including those managing medical waste are particularly vulnerable to contagions like COVID-19.

Project activities will not require hiring of community workers. Most of the labor will be locally hired, however it is expected that foreign labor will also be engaged, especially related to construction activities.

The project design incorporates measures to strengthen the protection of health care workers from risks of COVID-19 infection through training on appropriate use of PPE, improved medical waste management, surveillance and prevention of the spread of infections within healthcare facilities, and distribution of PPE according to WB, WHO and national guidelines.

ESMF includes a template for the ICWMP.

5.4 ESS3 Resource Efficiency and Pollution Prevention and Management

ESS3 recognizes that economic activity and urbanization often generate pollution[120] to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. It sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle.

In this ESS, "pollution management" includes measures designed to avoid or minimize emissions of pollutants, including short- and long-lived climate pollutants, measures which tend to encourage reduction in energy and raw material use, as well as emissions of local pollutants.

Main objectives of this standard are: to promote the sustainable use of resources, including energy, water and raw materials; **to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities**; **to avoid or minimize project-related emissions of short and long-lived climate pollutants**; **to avoid or minimize generation of hazardous and non-hazardous waste; to minimize and manage the risks and impacts associated with pesticide use.**

To meet the above mentioned objectives the Borrower should conduct management procedures and implement measures regarding: resource efficiency, energy use, water use, raw material use, pollution prevention and management, management of air pollution, management of hazardous and non-hazardous wastes, management of chemicals and hazardous materials according to the requirements and conditions of ESS3.

This Standard is relevant to the overall Project and for the Component 2, subject of this ESMF.

Project activities will contribute to better resource efficiency as the repair and rehabilitation of public health laboratories will include energy efficiency measures like improved insulation and heating efficiency. The project is not significant user of water or material resources.

Regarding pollution prevention and management, releases of pollutants to air, water and land due to routine, non-routine, and accidental circumstances as well as unorganized noise management, waste management and management of hazardous substances are recognized as potential threat to environment. Those environmental impacts are expected to be of manageable, temporary and of local impact as they are related to the general construction activities on already existing location.

Large quantities of construction and demolition waste are expected. Also, proper waste management will need to be safely and correctly collected, stored, transported, and disposed.

During the everyday work of public health facilities generation of medical waste occurs. Significant environmental and social risks are not expected and by application of environmental and social measures impacts will be eliminated and/or mitigated.

Through the implementation of procedures and measures stated in this ESMF, site-specific ESMPs and/or ESMP checklist as well as the project design, negative social and environmental impacts of

[120] The term "pollution" is used to refer to both hazardous and non-hazardous chemical pollutants in the solid, liquid, or gaseous phases, and includes other components such as thermal discharge to water, emissions of short- and long-lived climate pollutants, nuisance odors, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts including light.

project will be minimized and/or avoided. ICWMP will be prepared before beginning the relevant Project activities.

5.5 ESS4 Community Health and Safety

ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

Main objectives of this standard are: to anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and nonroutine circumstances; to promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams, to avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials, to have in place effective measures to address emergency events; to ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

This Standard is relevant to the overall Project and for the Component 2, subject of this ESMF.

Civil works will be undertaken in or around public health laboratories, and maintaining the health and safety of employees and visitors, and nearby communities, throughout the construction phase is critical. Movement of heavy goods vehicles can lead to accidents.

Given the small to medium scale nature of civil works primarily focused on repair and rehabilitation of buildings, the impact and risk on community's health and safety is expected to be minor and manageable. Low risks related to gender-based violence (GBV) or security forces are expected under the project activities because the scale of civil works is very small and most workers will be hired locally. However, there has been a growing trend of the required imported labor force in Croatia, especially in construction sector, there is a possibility that foreign workers will be engaged for civil works activities.

During the everyday work of public health facilities generation of medical waste occurs. COVID-19 related medical waste has a high potential of carrying microorganisms that could potentially infect communities if not properly contained. However, due to well elaborated institutional and legislative framework which to greatest extend reflect requirements of ESS4, potential risks will be eliminated and/or mitigated. Additionally, potential risks will be minimized by application of ICWMP which will be developed by healthcare facilities subject to Component 2.

The same stands regarding the infrastructure and equipment design and safety management and safety of hazardous materials. During the everyday work of public healthcare facilities and laboratories exposure to hazardous and flammable substances and materials is possible. Community exposure to hazardous materials and substances and emergency events will be prevented by application of national legislative framework, as well as requirements of ESS4, supported by WB Group Environmental, Health and safety Guidelines (ESHG), IFC Good Practice Note - Life and Fire Safety: Hospitals.

The project will ensure safety of staff and other visitors during the construction works and during operational phase of public health facilities by site-specific ESMP and/or ESMPs/Checklists and ICWMP.

5.6 ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

This Standard is not recognized as relevant for the overall Project nor the Component 2. Any reconstruction activities that might cause land acquisition or involuntary resettlement will not be eligible for financing. All construction activities will be within footprints of the existing buildings. There will be no temporary resettlement impacts from the project as all civil works will be conducted in public buildings.

5.7 ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment. All habitats support complexities of living organisms and vary in terms of species diversity, abundance and importance. This ESS also addresses sustainable management of primary production and harvesting3 of living natural resources.

Objectives of the ESS6: to protect and conserve biodiversity and habitats; to apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity and to promote the sustainable management of living natural resources.

This Standard is relevant to the overall Project. and for the Component 2, subject of this ESMF.

Given that all works will be carried out within the limited intervention scope (repair and rehabilitation within the existing footprint of buildings) in urbanized areas, low to moderate and only temporary and predictable impacts to protected areas are likely. The related risks will be addressed through site-specific ESMPs and/or ESMP Checklists.

5.8 ESS7 Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities

Croatia does not have distinct ethnic, social and/or cultural groups as covered by ESS7. **Thus, this standard is not relevant for the overall project nor for Component 2.**

5.9 ESS8 Cultural Heritage;

ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. It sets out measures designed to protect cultural heritage throughout the project life-cycle.

General objectives are as follows: to protect cultural heritage from the adverse impacts of project activities and support its preservation, to address cultural heritage

as an integral aspect of sustainable development, to promote meaningful consultation with stakeholders regarding cultural heritage, to promote the equitable sharing of benefits from the use of cultural heritage[121].

The requirements of ESS 8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified or disturbed. While the ESS8 relays on the officially recognised cultural heritage, is not exclusive (community perception is also taken into account, opinion of CH associations, chambers of architects, etc.).

The requirements of ESS8 apply to all projects that are likely to have risks or impacts on cultural heritage. This will include a project which: (a) Involves excavations, demolition, movement of earth, flooding or other changes in the physical environment; (b) Is located within a legally protected area or a legally defined buffer zone; (c) Is located in, or in the vicinity of, a recognized cultural heritage site; or (d) Is specifically designed to support the conservation, management and use of cultural heritage.

If previously unknown cultural heritage is encountered during project activities, a chance finds procedure should be followed. It has to be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, etc. The chance finds procedure sets out how chance finds associated with the project has to be managed.

A chance finds procedure is included in relevant procurement documents and instructions to contractors. A chance finds procedure is not a substitute for preconstruction surveys and analyses.

This Standard is relevant to the overall project and for Component 2, subject of this ESMF.

Certain sub-projects are in the area of protected cultural and historical entity and certain sub-projects are located in the area that is recognized by local community as important and need to be considered although is not legally recognized or protected as cultural heritage. Cultural heritage related risks will be addressed through this ESMF and the development of Cultural Heritage Management Plan (CHMP) as a part of ESMP/ESMP Checklist.

5.10 ESS10 Stakeholder Engagement and Information Disclosure

Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts.

[121] The term 'cultural heritage' encompasses tangible and intangible heritage, which may be recognized and valued at a local, regional, national or global level, as follows:

Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water;

Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

This ESS must be read in conjunction with ESS1. Requirements regarding engagement with workers are found in ESS2. Special provisions on emergency preparedness and response are covered in ESS2 and ESS4. In the case of projects involving involuntary resettlement, Indigenous Peoples or cultural heritage, the Proponent will also apply the special disclosure and consultation requirements set out in ESS5, ESS7 and ESS8.

Objectives of the ESS10 are: to establish a systematic approach to stakeholder engagement that will help Borrowers to identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties; to assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance, etc.

This Standard is relevant to the overall project and for the Component 2, subject of this ESMF.

The Initial Stakeholder Engagement Plan (SEP) is prepared as early as possible, before project appraisal, and was disclosed on the MoPPCSA and WB website on May 6, 2020. **It will be updated periodically as necessary.**

The SEP defines a program for stakeholder engagement, including planned public information disclosure and ways in which the project team will communicate with stakeholders throughout the project cycle. The SEP includes a grievance mechanism allowing citizens to raise concerns, provide feedback, or make complaints about any project related activities, whereby multiple channels for grievance uptake exist and citizens' project-related inputs are aggregated and followed-up on by a focal point in PIU. The grievance mechanism will also cater to the interests and concerns of direct and contracted workers.

With the evolving situation, as the Croatian Government has taken measures to impose strict restrictions on public gatherings, meetings and people's movement, the general public has also become increasingly concerned about the risks of transmission, particularly through social interactions. Hence alternative ways will be adopted to manage consultations and stakeholder engagement in accordance with the local laws, policies and new social norms in effect to mitigate prevention of the virus transmission. These alternate approaches that will be practiced for stakeholder engagement will include: having consultations in small groups if smaller meetings are permitted, else making reasonable efforts to conduct meetings through online channels (e.g. webex, zoom, skype etc.); diversifying means of communication and relying more on social media, chat groups, dedicated online platforms & mobile Apps (e.g. Facebook, Twitter, WhatsApp groups, project weblinks/websites etc.); and employing traditional channels of communications such TV, radio, dedicated phone-lines, SMS broadcasting, public announcements when stakeholders do not have access to online channels or do not use them frequently.

The affected parties[122] under this project component include: staff of the public health laboratories; primary health care workers of the facilities to be rehabilitated/equipped for the delivery of critical medical services; medical staff and patients of the hospitals selected for the establishment of flexible and specialized intensive care units; health facilities staff and front-line workers (doctors, nurses, public health inspectors, midwives, laboratory technicians/staff); general public impacted by the implementation of "social distancing measures" and targeted by public health communication

[122] Persons, groups and other entities within the Project Area of Influence (PAI) that are directly influenced (actually or potentially) by the project and/or have been identified as most susceptible to change associated with the project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures

campaigns, Ministry of Health government officials; the Civil Protection Headquarters of the Republic of Croatia and county, local civil protection teams; the Civil Protection Headquarters of the City of Zagreb.

Other Interested Parties[123] under this project component include: *public sector stakeholders* - Croatian Institute of Public Health; Andrija Štampar Teaching Institute of Public Health; University Hospital for Infectious Diseases Dr. Fran Mihaljevic; Regional Public Health Institutes; Civil Protection Headquarters in 20 counties and City of Zagreb; *private sector stakeholders* - Potential suppliers of goods and service providers involved in the project; *Non-governmental organizations* – Zagreb City Red Cross Society, which coordinates a network of COVID-19 volunteers helping the elderly, infirm and chronic patients[124]; Faith-based communities (e.g. Caritas); Croatian Association of Innovative Pharmaceutical Companies; Roma associations, including Roma women's organizations7, councils and representatives; *Public Sector Stakeholders* - Ministry of Regional Development and EU Funds; Ministry of Finance; *media* – television, radio stations, online and print newspapers, Croatian National News Agency HINA, social media sites and discussion groups; *International partners* - WHO Country Office, EU, UNICEF, Norway.

Disadvantaged / vulnerable individuals or groups[125] include and not limited to the following - Persons over 65 years of age[126]; Individuals with chronic diseases and pre-existing medical conditions[127]; Pregnant women; People in institutional settings, including homes for the elderly and infirm, nursing homes, residential care settings, prisons[128] , refugee centers, or shelters for victims of domestic violence; Homeless people[129]; Socially vulnerable groups; People with disabilities; Residents of rural areas and Residents of isolated settlements; Roma; Women at risk of GBV.

[123] Individuals/groups/entities that may not experience direct impacts from the Project but who consider or perceive their interests as being affected by the project and/or who could affect the project and the process of its implementation in some way;

[124] 3012 volunteers of the Croatian Red Cross are engaged in everyday fieldwork activities in response to COVID-19. All Red Cross volunteers are equipped with protective equipment for protection of their health and the health of people they are helping. In addition, they have undergone professional training in how to act properly in this crisis.

[125] Persons who may be disproportionately impacted or further disadvantaged by the project(s) as compared with any other groups due to their vulnerable status4, and that may require special engagement efforts to ensure their equal representation in the consultation and decision making process associated with the project.

[126] In 2018, 20% of the total population in Croatia was 65 years of age and above. See https://data.worldbank.org

[127] People who are immune-suppressed, suffering from respiratory diseases, diabetes, specific cancers, metabolic disorders, heart disease, etc.

[128] In order to ensure the implementation of adequate measures, the Croatian Public Health Institute published recommendations for the conduct of the judicial police officers and Regulation Act for the Prevention and Suppression of the Coronavirus Epidemic (COVID-19) in the Prison System Bodies, and the Ministry of Justice had further elaborated certain measures (https://www.ombudsman.hr/en/it-is-necessary-to-provide-prevention-measures-within-the-prison-system/)

[129] According to the Croatian Network for the Homeless, there are more than 2,000 homeless people in Croatia, half of them located in Zagreb.

5.11 Results of the preliminary assessment of Environmental and Social Standards (ESS)

Table 12. Preliminary assessment of ESS

Environmental and Social Standards (ESS)	Relevant to the Project		Preliminary assessment
	Yes	No	
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	✓		Environmental and social risks and impacts have been preliminary identified. As an instrument that details the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and the actions needed to implement these measures the templates for ESMPs and/or ESMP Checklists will be prepared. Infection Prevention and Control and Waste Management Plan (ICWMP) will be prepared.
ESS2 Labor and Working Conditions	✓		Occupational Health and Safety (OHS) measures to ensure the health and safety of workers will be given adequate attention in line with the ESMF, in ESMPs and ICWMP. Guidelines on COVID19 shall be established and complied during project implementation. A Grievance Redress Mechanism for workers and the roles and responsibilities for monitoring such workers shall be established.
ESS3 Resource Efficiency and Pollution Prevention and Management	✓		ICWMP for all facilities/sub-projects before commencement of activities and/or delivery of goods or services will be prepared . Site ESMPs and/or ESMP Check list will be required for repair and rehabilitation of public health laboratories by contractors.
ESS4: Community Health and Safety	✓		Precautionary measures in line with the ESMF, ICWMP and WHO/WB/national guidelines on COVID19 shall be put in place to prevent or minimize the spread of the infectious disease/COVID-19 from laboratories, quarantine and isolation centers and screening posts to the community. To ensure safety of staff during works, mitigation measures to address environmental impacts will be prepared as well as templates for site-specific ESMP and/or ESMPs checklist.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement		✓	All construction activities will be within footprints of the existing buildings. There will be no temporary resettlement impacts from the project as all civil works will be conducted in public buildings.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	✓		Since the Project may produce low to moderate adverse effects for Natura 2000 and protected areas, to protect and conserve biodiversity and habitats, mitigation measures to address environmental impacts will be prepared as well as templates for site-specific ESMP and/or ESMPs checklist.
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities		✓	Croatia does not have distinct ethnic, social and/or cultural groups as covered by ESS7. Thus, this standard is not relevant.
ESS8: Cultural Heritage	✓		Certain sub-projects are in the area of protected cultural and historical entity. Cultural heritage related risks will be addressed

Environmental and Social Standards (ESS)	Relevant to the Project		Preliminary assessment
	Yes	No	
			through this ESMF and the development of Cultural Heritage Management Plan (CHMP).
ESS9: Financial Intermediaries		✓	This standard is not applicable as the project does not envision involvement of financial intermediaries.
ESS10: Stakeholder Engagement and Information Disclosure	✓		The Initial Stakeholder Engagement Plan (SEP) is prepared as early as possible, before project appraisal, and was disclosed on the MoPPCSA and WB website on May 6, 2020. The SEP will be updated in parallel with the development of ESMF. Grievance Mechanism shall be made publicly available to receive and facilitate resolution of concerns and grievances in relation to the Project, consistent with ESS10.

6 GAP ANALYSES OF ESS AND NATIONAL LEGISLATION COMPLIANCE

As a member of the European Union, Republic of Croatia has harmonized its environmental regulations and standards in line with EU directives. A comprehensive list of the legal and institutional frameworks has been analysed during the process of developing the current ESMF with the conclusion that the environmental regulations are in general in line with WB safeguards and policies.

Several minor differences between national legislation and WB ESS were identified, regarding ESS3, ESS6 and ESS10.

In relation to social impacts, the Croatian legislation is in line with WB safeguards and requirements in terms of human health and safety, public consultation or provisions for addressing the relation and impact of the project to neighbouring properties and communities.

National legislation is in compliant with all ESS2 prescriptions and no differences have been identified. For more information on national legislation see Chapter 4.1

Detailed information on discrepancy between ESSs and national legislation are given below, Table 13.

Table 13. Compliance analysis of ESS and national legislation

Environmental and Social Standards (ESS)	National environmental and social framework	Gaps
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	- Environmental Protection Act (OG 80/13, 153/13, 78/15, 12/18, 118/18), - Regulation on environmental impact assessment (OG 61/14, 3/17), - Regulation on information and participation of the public and public concerned in environmental matters (OG 64/08), - Nature Protection Act (OG 80/13, 15/18, 14/19,127/19), - Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (OG 102/20, 10/21, 117/21) - Occupational Safety and Health Act (OG 71/14, 118/14, 94/18, 96 / 18) - Decision on the Adoption of the Program of Measures for the Reconstruction of Buildings Damaged by Earthquakes in the Area of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (OG 99/21) - Construction Act (OG 153/13, 20/17, 39/19, 125/19) - Labor Act (OG 93/14, 127/17, 98/19), - Gender Equality Act (OG 82/08, 69/17), - Anti-discrimination act (OG 85/08, 112/12), - Foreigners Act (OG 133/20)	According to ESS1 Borrower must conduct environmental and social assessment of all projects proposed for Bank financing to help ensure that projects are environmentally and socially sound and sustainable. Croatian legislation defines different mechanisms for environmental and social assessment of projects. The environmental legal, regulatory and policy framework in Croatia is ensured through the following main instruments: Environment Impact Assessment, Location and Building permitting process (opinion of competed authorities for meeting environmental conditions has to be issued as a part of permitting procedure, e.g. for water protection, protections of cultural heritage, etc.), Physical Planning (preparation of physical plan is subject of strategic environmental assessment). Although for certain projects/interventions legally is not specifically required to conduct procedure of environmental assessment, assessment is ensured by application of these mechanisms (elimination and/or mitigation of possible negative environmental and social impact from a planned project is ensured). Environmental and social assessment national and WB instruments cannot be directly compared, and alignment and application of these instruments have to be checked for every project/sub-project.
ESS2 Labor and Working Conditions	- Labor Act (OG 93/14, 127/17, 98/19), - Gender Equality Act (OG 82/08, 69/17), - Anti-discrimination act (OG 85/08, 112/12), - Occupational Safety and Health Act (OG 71/14, 118/14, 94/18, 96 / 18) - - Foreigners Act (OG 133/20)	**There is no gap on the policy level.**
ESS3 Resource Efficiency and Pollution Prevention and Management	- Waste Management Act (OG 84/21) - Ordinance on waste management (OG 81/20)	**Difference is identified in the field of waste management record keeping.**

Environmental and Social Standards (ESS)	National environmental and social framework	Gaps
		For hazardous waste management according to ESS3, waste owner must obtain documentation on handing over waste to the final destination. National legislation does not define such an obligation. Waste owner decides voluntarily whether to be provided with information on the final destination. According to the national legislation owner's responsibility ceases when waste is handed over to the authorized company. If authorized company is waste collector, which is a common case, and if waste owner does not request this information, the final destination will be unknown.
ESS4: Community Health and Safety	- Occupational Safety and Health Act (OG 71/14, 118/14, 94/18, 96 / 18) - Pension Insurance Act (OG 157/13, 151/14, 33/15, 93/15, 120/16, 18/18, 62/18, 115/18, 102/19) - Act on the List of Occupational Diseases (OG 162/98, 107/07) - Act on mandatory health monitoring of workers occupationally exposed to asbestos (OG 79/07, 139/10), - Waste Management Act (OG 84/21)	**There is no gap on the policy level**
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not applicable	**This Standard is not currently relevant.** All construction activities will be within footprints of the existing buildings. There will be no temporary resettlement impacts from the project as all civil works will be conducted in public buildings.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	- Environmental Protection Act (OG 80/13, 153/13, 78/15, 12/18, 118/18), - Nature Protection Act (OG 80/13, 15/18, 14/19,127/19), - Regulation on environmental impact assessment (OG 61/14, 3/17) - Regulation on the ecological network and the competencies of public institutions for the management of ecological network areas (OG 80/19) - Ordinance on conservation objectives and conservation measures for target bird species in ecological network areas (OG 25/20, 38/20)	**According national legislation, preparation of Biodiversity Management Plan (BMP) is not required.** In the case where **significant risks and adverse impacts on biodiversity have been identified**, the Borrower, according to the ESS6, is obliged to develop and implement a Biodiversity Management Plan. BMP typically includes key biodiversity objectives, activities to achieve these objectives, an implementation schedule, institutional and gender-inclusive responsibilities, and cost and resourcing estimates. Indicative content of the BMP is prescribed by ESS6.

Environmental and Social Standards (ESS)	National environmental and social framework	Gaps
	- Ordinance on the list of habitat types and habitat map (OG 27/21)	BMP is equal to the Program for Monitoring and Reporting on the State of Conservation Objectives and the Integrity of the Ecological Network Area (Program) which is mandatory part of the EIA procedure. The obligatory content of the Program isn't legally prescribed and, in most cases, don't contain financial information as it is required by ESS6 BMP.
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not applicable	**This Standard is not relevant.** Croatia does not have distinct ethnic, social and/or cultural groups as covered by ESS7. Thus, this standard is not relevant.
ESS8: Cultural Heritage	- Act on the Protection and Preservation of Cultural Property (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20, 117/21)	**There is no gap on the policy level**
ESS9: Financial Intermediaries	Not applicable	**This Standard is not currently relevant.** This standard is not applicable as the project does not envision involvement of financial intermediaries
ESS10: Stakeholder Engagement and Information Disclosure	- Environmental Protection Act (OG 80/13, 153/13, 78/15, 12/18, 118/18) - Regulation on environmental impact assessment (OG 61/14, 3/17), - Regulation on information and participation of the public and public concerned in environmental matters (OG 64/08)	**According to the national legislation, preparation of SEP is not required.** Although the procedures related to public information disclosure and grievance mechanism in the process of EIA are comprehensively and in detail covered by national legislation and in line with ESS10 requirements, the preparation of programme like SEP for specific project isn't required by national legislation. As it is mentioned, public consultation and engagement is covered in national legislation, including the right to address petitions, request information on projects carried by public bodies, consultation of neighbours and communities, etc.; however, the processes for reaching potentially impacted persons and communities also can be improved to incorporate WB principles, by engaging actively with these persons/groups, especially with vulnerable groups where such situations will surface. According to national legislation public consultation process is a part of EIA procedure and is conducted for every project/sub-project

7 SCREENING OF POTENTIAL ENVIRONMENT AND SOCIAL IMPACTS

According to the national legislation all construction works must be designed and built in such a way that it will, throughout its life cycle, not be: threat to the hygiene or health and safety of workers or neighbours, have no exceedingly high impact on the environmental quality or on the climate during its construction, no leakage of toxic gases, emissions of dangerous substances, volatile organic compounds, greenhouse gases or dangerous particles into the air, emission of dangerous radiation, release of dangerous substances into ground water, marine waters, surface waters or soil, release of dangerous substances into drinking water or substances which have an otherwise negative impact on drinking water, faulty discharge of waste water, emission of flue gases or faulty disposal of solid or liquid waste, dampness in parts of the construction work or on surfaces within the construction work.

This means that all civil works must be designed and conducted in such a way that do not present unacceptable risks of accidents or damage in service or in operation such as slipping, falling, collision, burns, electrocution, injury from explosion, burglaries, etc. In particular, must be designed taking into consideration accessibility and use for disabled persons. Regarding noise protection, noise perceived by the workers or people nearby has to be kept to a level that will not threaten their health and will allow them to sleep, rest and work in satisfactory conditions. Additionally, construction works must be energy-efficient, using as little energy as possible and conducted in such a way that the use of natural resources is sustainable.

7.1 Environmental impacts

Construction phase

The small scale environmental impacts of the project are expected in Subcomponent 2.1 which includes civil works – repair / rehabilitation works[130]. Furthermore, significant environmental impacts under Subcomponent 2.2 are not expected as it is focused on providing healthcare equipment (vehicles, protective equipment, equipment and supplies for telemedicine etc.) and support institutional and organizational strengthening. During the everyday work of public health facilities generation of medical waste occurs. Possible environmental and social risks related to medical waste management will be eliminated and/or mitigated by application of adequate measures (see analysis for operational phase).

It is anticipated that for planned repair / rehabilitation works environmental risks are typical for construction works and would be easily predictable and mitigated. Long term environmental impacts are expected to be generally neutral.

The environmental impacts of the project (Component 2) are expected to be of manageable, temporary and of local impact, effectively anticipated, easily mitigated as they are related to the general construction activities on already existing location.

Environmental risks and possible impacts most commonly will include**: a) Air pollution b) Noise c) Surface or ground water pollution (including accidental spillage of machine oil, lubricants etc.) d) Soil pollution or erosion; e) Cultural and historical heritage (chance finds and impact on protected cultural and historical entity); f) Biodiversity; g) Traffic disturbance h) Waste generation and waste management.**

[130] "Rehabilitation'" is structural strengthening of existing buildings to meet a higher seismic performance. "Reconstruction" is demolishment of existing buildings and subsequent construction of new buildings in replacement.

The construction works planned within the project should be complemented by functional upgrades and climate-resilient designs, including improved insulation to cope with extreme temperature and energy efficiency to address also climate-related risks. This means that rehabilitated health laboratories will be resilient to hydrometeorological and climate risks.

The increased energy efficiency is expected to support climate change adaptation and sustainability.

More detailed information on foreseen impacts of repair / rehabilitation works are given below. Detailed overview of mitigation measures is given in the ANNEX X.

7.1.1.1 Air pollution

During the repair / rehabilitation works emissions of exhaust gases into the air (CO_2, NO_x, SO_2 and CO) from combustion of machinery and vehicles fuels will occur. In addition to this, due to the movement of the vehicles and the work of the construction machinery PM_{10} particles also increase and deposit on the surrounding surfaces. The intensity of this pollution depends primarily on weather conditions and on the strength of the wind that spreads PM_{10} particles into the surrounding surfaces.

Such emissions are fugitive nature and are limited to the narrower area and only to the working part of the day. The densely populated areas are particularly vulnerable to these impacts.

Repair / rehabilitation works will take place during limited short-term period, so the impact on air quality will be short-term and negligible scale.

7.1.1.2 Noise

Noise is an unavoidable environment impact during construction works. It occurs during the operation of machine and equipment at the site (mainly in the processes like transport, loading/unloading machinery, etc.). This impact is short-term, limited to the location of the site and the narrower area around the site, and ceases after completion of foreseen works.

Permissible noise level for the construction site is determined by the provisions of the Ordinance on the maximum allowed noise levels in the environment in which people work and live (OG 145/04) and amounts 65dB. According to the mentioned Ordinance, it is allowed to exceed that level for additional 5 dB in the period from 8 to 18 hours. It is exceptionally permitted to exceed the permissible noise level by 10 dB, in the case that it is required by technological process but up to a maximum of one night or two days over a period of thirty days.

It is desirable to carry out works in the period from 8 to 18 hours and not to carry works during the nights. Community / public should be informed in advance of any work activities to occur outside of normal working hours or on weekends.

In compliance with the prescribed limits, the impact of the project on the noise level is acceptable and not considered to be significantly negative.

7.1.1.3 Surface or ground water pollution

During the repair / rehabilitation works there is a possibility of impacting surface water and ground water due to uncontrolled spillage of fuels, oils, equipment lubricants, paints, varnishes and improper waste management during irregularly storage of fuels or some accidental situations.

Considering the distance of the surface water from the boundary of the site, during the repair / rehabilitation works, the surface water body may be affected if the work is carried out in such a way that material is unlawfully disposed.

There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers.

7.1.1.4 Soil pollution or erosion

Possible negative impacts on the soil can be caused by fuels, lubricants and liquid materials used in construction, which can infiltrate into ground and underground as a result of elemental disasters, accidents or mismanagement of the equipment, transport vehicles and parts of the devices and system during performing the service when there is a risk of leakage of dangerous substances in the surroundings. Runoff from an unstabilized and unmanaged construction site can result in soil erosion which pose an environmental risk.

7.1.1.5 Cultural and historical heritage

For sub-project located in the protected cultural and historical area there is a risk that conduction of civil works could transform landscapes and maintenance of cultural and regional identity. If reconstruction/construction works are not properly conducted (in line with legal requirements) violation of harmony with local building culture and settlement layouts could appear and isolation of a heritage attribute from its surrounding environment, context, or a significant relationship.

If the location of the planned sub- project overlaps or is located close to the elements of cultural heritage, processes like excavation, mechanization and vibration may cause physical damage of architectural heritage or destruction of the archaeological find e.g. (direct or indirect obstruction of significant views or vistas from, within, or to a built).

If previously unknown cultural heritage is encountered during project activities, a chance finds procedure should be followed. It has to be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, etc. The chance finds procedure sets out how chance finds associated with the project has to be managed.

7.1.1.6 Biodiversity

Repair / rehabilitation works can affect biodiversity or habitats, this is however, is unlikely under the Component 2 as project of activities are taking place in the existing physical footprint. There is a wide range of impacts that can affect biodiversity and habitats, including, for example, habitat conversion; interruption of important ecological processes such as species migrations, dispersal, or pollination; degradation of habitat quality (from air/water pollution or temperature change, light or noise pollution, habitat fragmentation); introduction of invasive alien species; and vulnerability to fire or other stresses.

Since all works will be carried out within the limited intervention scope, within the existing footprint of buildings in urbanized areas, in a space already in use for the same purposes and thus significant, long term negative impact on biodiversity are not expected. The effects will be temporary, predictable, and typical for smaller civil works and, as such, easily mitigated.

7.1.1.7 Traffic disturbance

During the execution of the work, due to the increased frequency of transport of materials and techniques, temporary interruption in traffic may occur.

This is a short-term impact which will last only during the execution of the work. Certain quantities of land and other building materials on the roads are possible and may cause: difficulties in traffic flow, accidental damage of roads and stops due to overturning of trucks, spilling of materials etc.

7.1.1.8 Waste generation and management

On the location of repair / rehabilitation works waste generation will occur.

Waste classification in Croatia is stipulated by Ordinance on waste catalogue (OG 90/15). Mainly

waste types from the following waste groups are expected to occur:

- group 08 - wastes from the manufacture, formulation, supply and use of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
- group 17 - construction and demolition wastes (including excavated soil from contaminated sites)
- group 13 - - oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19 of waste catalogue)
- group 15 - waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
- group 20 - municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions (paper, plastics, glass, food waste etc).

Hazardous waste is expected in negligible amounts. It will include the residues of varnishes, paints, as well as oil wastes from equipment.

Each type of generated waste on the location has to be temporary stored in separate waste container which have to be labelled with waste type name and waste code. Whenever feasible the contractor should reuse and recycle appropriate and viable materials. Burning or illegal dumping of waste is strictly prohibited.

On the construction site, municipal waste generation is also expected.

Waste arising from COVID-19 measures (protective gloves, masks, etc.) is considered to be municipal waste and should be handled in line with the WHO guidelines[131] and the guidelines available on the official government website[132]..

During and after finishing repair / rehabilitation works all waste have to be handed over to the companies authorized for the waste management, so the potential of a negative impact on the environment is reduced to a minimum.

Additionally, according to Reconstruction Act, MoESD, City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County at whose territory the renovation of buildings is carried out shall provide appropriate real estate for the purpose of temporary storage of construction waste generated as a result of the natural disaster. Details regarding the waste management of construction waste shall be determined in the program of measures, in accordance with a special regulation, respecting the principle of circular economy.

Operational phase

Commonly encountered risks related to the operation of public health facilities include poorly organized collection and disposal of waste; improper maintenance of land plot area around buildings; lack or malfunctioning of stormwater drainage systems; leaking roofs and water pipes due to no checks and timely repair. Due to the unmaintained thermal power plant for space heating there is possibility of exceeding the permitted air emissions[133]. In the case of improperly discharging wastewater into municipal sewer sewerage system, exceeding the permitted water emissions[134] is possible.

Other impacts on the health of hospital patients and personnel at the operation phase may result from improper natural and artificial illumination and ventilation of the buildings, management of

[131] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public
[132] https://koronavirus.hr/en
[133] Regulation on limit values of emissions of pollutants into the air from immovable sources (OG 87/17)
[134] Ordinance on limit values of wastewater emissions (OG 26/20)

chemicals, from the operation of power supply and heating systems, from the operation of specialized medical equipment.

After the completion of the main construction works, the Contractor will be given a period / stage to eliminate defects on the site.

Health-related activities produce a considerable amount of waste on a daily basis as a result of preventive and curative service delivery. The composition of waste produced is in the form of sharps (needles, syringes), non-sharps, blood and other body fluids being infected and non-infected, chemicals, pharmaceuticals, and medical devices. Health workers, waste handlers, users of health facilities and the community can all be exposed to healthcare-related waste as a result of poor health care waste management. Also, there is health and safety risks related to availability and use of protective equipment and hygiene materials. Health-care waste that may occur in the operational phase of sub-project is classified as follows:

Table 14. Classification of waste which may occur in the healthcare institutions - not an exhaustive list[135]

Risk category	General description of waste belonging to the particular risk	Groups of waste	Applies to	Possible waste code from the Waste Catalogue[136]	Classification according to the Ordinance on waste management[137] (hazardous /non-hazardous)	Required treatment operation
A. Non-risk	Waste that has not been in contact with infectious agents, hazardous chemicals, or radioactive substances, and that does not pose a hazard. In most cases it is similar to household waste (general office waste, packaging or food leftover, electrical and electronic equipment). Represents between 75% and 90% of the total amount of waste generated by healthcare institutions.	**A1. Recyclable waste**	**Paper and cardboard** (office paper, computer printout, newspapers, magazines, corrugated cardboard etc.)	15 01 01, 20 01 01	Non-hazardous	Recycling
			Plastic (PET water and soft drink bottles, milk containers etc.)	15 01 02, 20 01 39	Non-hazardous	Recycling
			Metal (aluminium beverage cans, aluminium containers, food tin cans, metal containers, spoons etc.)	15 01 04, 20 01 40	Non-hazardous	Recycling
			Glass (glass bottle etc.)	15 01 07, 20 01 02	Non-hazardous	Recycling
			Wood (shipping pallets etc.)	15 01 03, 20 01 38	Non-hazardous	Recycling
			Textile (old furniture, bed frames, carpets, curtains etc)	20 03 07, 20 01 10, 20 01 11	Non-hazardous	Recycling
			Electrical and electronic equipment that has not been in contact with infectious agents, hazardous chemicals, or radioactive substances (discarded computers, hospital electrical equipment, fluorescent tubes and other mercury containing waste etc.)	20 01 35*, 20 01 36, 16 02 13, 16 02 14*, 20 01 21*	Non-hazardous / Hazardous	Recycling
		A2. Compostable waste	**Food waste** (leftover)	20 01 08	Non-hazardous	Composting / anaerobic digestion
			Compostable waste from parks and gardens (waste from maintenance of gardens and parks around the healthcare institutions)	20 02 01	Non-hazardous	Composting / anaerobic digestion
		A3. Other non-risk waste	All the non-risk waste that do not belong to above mentioned two categories (eg mixed municipal waste, PEE (masks, gloves) from waiting rooms etc.), sludge from wastewater treatment, grease and oil mixture from oil/water separation containing edible oils and fats etc.	20 03 01, 19 08 05, 19 08 09, 20 03 07 and other appropriate waste codes from Waste Catalogue (mostly from sub-group 15 01 and group 20 of waste catalogue) related to waste that has not been in contact with infectious agents, hazardous chemicals, or radioactive substances.	Non-hazardous/Hazardous	Priority must be given to reuse/ recycling / recovery process. If it isn't applicable, disposal operation is unavoidable.
B. Biological (infectious) risks	Healthcare wastes that are suspected to contain pathogens (or their toxins) in sufficient concentration to cause diseases to a potential host after exposure.	**B1. Sharps waste**	Syringes, needles, disposable scalpels and blades	18 01 01	Hazardous	Physical procedures of dry or steam sterilization, and in the absence of a device, other procedures can be applied to achieve the removal of microorganisms.
		B2. Infectious waste	Waste contaminated with blood (e.g. from discarded diagnostic samples), cultures and stocks of infectious agents from laboratory work (e.g. waste from autopsies), PPE (personal protective equipment) from staff, or waste from patients with infections (e.g. swabs, bandages and disposable medical devices, used swab kits)	18 01 03*	Hazardous	Physical procedures of dry or steam sterilization, and in the absence of a device, other procedures can be applied to achieve the removal of microorganisms.

[135] National legislation, Safe management of wastes from health-care activities (WHO), National Health-Care Waste Management Plan - Guidance Manual (WHO), https://www.who.int/news-room/fact-sheets/detail/health-care-waste
[136] Ordinance on the waste catalogue (OG 90/15)
[137] OG 81/20

Risk category	General description of waste belonging to the particular risk	Groups of waste	Applies to	Possible waste code from the Waste Catalogue[136]	Classification according to the Ordinance on waste management[137] (hazardous /non-hazardous)	Required treatment operation
		B3. Pathological waste	Body parts, human tissue, organs or fluids	18 01 02	Non-hazardous	Cremation in crematoria or burial in cemeteries
		B4. Amalgam waste from dental care	Amalgam waste from dental care	18 01 10*	Hazardous	Prior to permanent disposal[138], waste mercury undergoes conversion and, if intended for disposal in above-ground facilities, conversion and solidification.
C. Chemical risks	Discarded solid, liquid and gaseous chemicals from diagnostic and experimental work and from cleaning and disinfection.	**C1. Pharmaceutical waste**	Expired drugs, expired vaccines	18 01 09	Hazardous	Incineration (D10) / Energy recovery (R1)
		C2. Cytotoxic waste	Waste containing substances with genotoxic properties (i.e. highly hazardous substances that are, mutagenic, teratogenic or carcinogenic), such as cytotoxic drugs used in cancer treatment and their metabolites	18 01 08*	Hazardous	Incineration (D10) / Energy recovery(R1)
		C3. Chemical waste	Solvents and reagents used for laboratory preparations, disinfectants, sterilants and heavy metals contained in medical devices (e.g. mercury in broken thermometers), and batteries	18 01 06*, 18 01 07	Hazardous	Incineration (D10) / Energy recovery (R1)
		C4. Radioactive waste	Products contaminated by radionuclides including radioactive diagnostic material or radiotherapeutic materials (radionuclides, vials with radioactive residues).	Radioactive waste falls under the scope of the Act on radiological and nuclear safety[139] but not under the waste legislation. Therefore, it can not be classified by any waste code.	Not applicable	Since it is about low radioactive waste[140], required treatment process is storage in a specially designed building with appropriate characteristics and then disposal in a surface or underground landfill[141].

[138] Permanent storage facility that allows the disposal of hazardous waste (https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32017R0852)
[139] OG 141/13, 39/15, 130/17, 118/18
[140] http://www.nemis.hr/index.php/radioaktivni-otpad/upravljanje-nisko-i-srednje-radioaktivnim-otpadom.html
[141] Ordinance on disposal of radioactive waste and used sources (OG 12/18) (http://www.propisi.hr/print.php?id=7985)

Management of waste from healthcare institutions

In the Republic of Croatia, management of waste from healthcare institutions is regulated by waste legislation, excluding the radioactive waste which falls under the scope of radiological and nuclear safety legislation. Responsible bodies for establishment of medical waste management system are MoESD for medical waste and Ministry of Interior (MoI) for radioactive medical waste.

Framework legislation are the Act on Waste Management (OG 84/21) and the Act on Radiological and Nuclear Safety (OG 141/13, 39/15, 130/17, 118/18).

Non-risk waste (Groups A1, A2, A3 – table above), mostly is similar to the waste originating from households (packaging waste, food waste, electrical and electronic waste etc.). Conditions for the storage and handling non-risk waste are stipulated by Ordinance on waste management (OG 81/20).

Other waste which belongs to a certain level of risk is regulated additionally by special sub-low legislation. Thereby, special conditions for handling medical waste (Groups B1-B4, C1-C3) are stipulated by Ordinance on medical waste management (OG 50/15, 56/19) (hereafter: Ordinance).

By that Ordinance, groups B1, B2, B4, C1-C3 are considered as hazardous medical waste, and special conditions for handling are required, especially when it comes about waste from group B2 (Infectious waste). Waste potentially infected or infected by COVID-19 that is generated in healthcare facilities belongs into the group B2.

Depending on the quantities generated, medical waste generators are divided into large sources (annually generate 200 or more kilograms of hazardous medical waste at one location) and small sources (annually generates less than 200 kilograms of hazardous medical waste at one location).

Obligations of medical waste generators regarding handling the medical waste (Groups B1-B4, C1-C3) are given in the Table 15 below.

Table 15. Obligations of medical waste generators regarding handling the medical waste (Groups B1-B4, C1-C3), according to the waste legislation

Storage of medical waste at the place of generator
Medical waste must be stored in a locked, covered, temporary storage area in which the inflow of rainwater to the waste is prevented. The storage must be separate from the main activity (healthcare activity).
The area of medical waste storage, in addition to the conditions for waste storage in accordance with a Ordinance on waste management [142], must meet the following conditions: • must have impermeable and resistant floor surfaces that are easy to clean and disinfect • must be equipped with water and sewage • must be easily accessible to the staff in charge for internal waste management at the place of medical waste generator • must be locked in order to prevent access by unauthorized persons • must be easily accessible with devices and equipment for waste collection (trolleys, etc.) • must be inaccessible to animals, especially rodents, birds and insects • must be well lit and ventilated • must be located in such a way that the waste cannot come into contact with food and the place for food preparation
Containers for the collection of hazardous medical waste must be resistant to the hazardous properties of the contents, to cracking and puncture in the case of sharp objects, to aggressive chemicals etc. and

[142] OG 81/20

must withstand normal handling and transport conditions such as vibration and temperature changes, humidity and pressure.
Each container must be marked with an inscription containing basic information about the waste producer with the name of the institution and department, key number and name of the type of waste in accordance with a Waste Catalogue and the date of delivery to an authorized person. The inscription with the data shall be printed on the container or on a label which may not be less than 50 x 75 millimetres.
Infectious medical waste must be collected separately at the place of origin in hermetically sealed containers resistant to puncture and leakage of liquids from them and transported to a temporary storage without sorting and transfer to other containers, in a way that prevents direct contact of endangered persons with waste.
Storage of infectious medical waste (group B2) may last for a maximum of 15 days at a temperature of up to +8°C, and at a temperature between +8°C and +15°C for a maximum of eight days.
A small source is not obliged to have a waste storage at the place of origin, but is obliged to collect hazardous medical waste separately in appropriate containers. For infectious medical waste the storage must be conducted at temperature up to +8°C and treated[143] within 30 days on prescribed way at the location or handed over to an authorized treatment company or sent for export outside the Republic of Croatia.
If the producer of infectious medical waste cannot ensure the conditions for its storage in accordance with the Ordinance provisions, it must ensure that no more than 24 hours pass from the generation of infectious waste to its submission for treatment if the environment temperature exceeds 20°C or 72 hours if the environment temperature is between 15 and 20 °C.
Pathological waste must be stored in a freezer, in airtight bags, in a healthcare institution that is the generator of that waste.
Obligations regarding sharps waste
Sharps waste management requires taking measures to prevent injuries and infection during handling until processing in accordance with the rules of the profession, Ordinance and Ordinance on waste management (OG 81/20).
Sharps waste must be collected and treated separately from other medical waste.
Sharps waste originating from health protection must be managed as infectious medical waste.
Treatment at the generator location
Medical waste generator may treat medical waste at the location if he has appropriate equipment and obtains the appropriate permit for medical waste management according to the Act on sustainable waste management[144].
Without obtained permit, medical waste may sterilize his own infectious medical waste and diapers at the location, if the sterilization procedure is performed in accordance with the internal protocol which ensures the implementation of Article 9, paragraph 1 of the Act on sustainable waste management[145]; records containing the date and time performance of the treatment process, the parameters of the treatment process and the name of the person who performed the treatment process.

[143] Physical methods of dry or steam sterilization. In the absence of a device, other methods can be used to achieve the removal of microorganisms

[144] OG 94/13, 73/17, 14/19, 98/19

[145] Waste management shall be carried out in a manner which is not likely to pose a risk to human health or to have adverse environmental impacts, and in particular to avoid:
1. risks of sea, water, soil and air pollution, and risks to biodiversity,
2. nuisance caused by noise and/or odours,
3. adverse impacts in areas of cultural, historical, aesthetic and natural significance, or on other assets of special interest,
4. explosions or fires.

Administrative and similar obligations
The head of a large source is obliged to appoint a person responsible for medical waste management.
In the case of small source of medical waste, the responsible person for medical waste management is the head of the small source.
Records of waste streams and amounts have to be kept for each type of generated waste at the location by using documentation defined by waste legislation.
Waste must be handed over to authorized company in Croatia or exported for treatment outside of Croatia. When handing over the waste to waste collector/treatment facility, information on final treatment process must be obtained. As Croatia does not have waste energy recovery plant nor waste incineration plant, certain quantities of waste are exported from Croatia (e.g. hazardous and non-hazardous waste chemicals, pharmaceuticals, cytotoxic and cytostatic, etc.). Export of hazardous waste is conducted in line with national waste management legislation and Basel Convention[146].

Handling radioactive medical waste (Group C4) is stipulated by Ordinance on the disposal of radioactive waste and used sources (OG 12/18). Generation of radioactive waste is not expected as a result of the project implementation, but it can be generated as a result of everyday work of laboratories. Obligations of radioactive waste generator are given in the Table 16 below.

Table 16. Obligations of radioactive medical waste generators (Group C4)

Obligations of radioactive waste generator
Radioactive waste generator must ensure that radioactive waste and recovered sources are generated in the smallest possible quantities.
Radioactive waste generator is responsible for the classification of radioactive waste.
Radioactive waste generator not located in the Center for disposal of radioactive waste must act in accordance with their own Plan for disposal of radioactive waste which must contain: • organization of procedures for disposal of radioactive waste and the name of the person responsible for disposal • written procedures in accordance with which the care is carried out • description of the method of generation of radioactive waste, classification, categorization and dynamics of generation • technical, organizational and other measures to prevent the harmful impact of radioactive waste on employees, individual residents and the environment • anticipated dynamics of handing over radioactive waste for disposal to the Center or its release from supervision • the manner of keeping records of radioactive waste in the repository as well as the manner of reporting to the central records of radioactive waste and spent sources. • the producers and / or owners and possessors of radioactive waste and spent sources must revise their Disposal Plan every five years. • the plan for the disposal of radioactive waste and its revision shall be approved by the Institute.
Radioactive waste generator bears full responsibility for radioactive waste and used sources and is obliged to implement the prescribed radiological safety measures and nuclear security measures and prevent unauthorized removal (e.g. theft), loss, sabotage, unauthorized access, damage, unauthorized transfer or other malicious acts, all for the purpose of enabling adequate protection of individuals, society and the environment from the harmful consequences of ionizing radiation and preventing the misuse of radioactive waste and spent sources.

[146] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel 1989), Published in OG–IT No. 3/94, came into force with respect to the Republic of Croatia on 7 August 1994.
Act on Ratification of Amendments to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal OG-IT No. 7/19

Radioactive waste generator must ensure that radioactive waste is disposed of in accordance with the provisions of Ordinance on the disposal of radioactive waste and used sources (OG 12/18).
Radioactive waste generator is obliged to insure and bear the costs of radioactive waste disposal.
Radioactive waste generator shall be obliged to appoint a person responsible for radioactive waste disposal.
The person responsible for the radioactive waste disposal must have completed undergraduate and graduate university study or integrated undergraduate and graduate university study of technical or natural profession, as well as special professional education for handling ionizing radiation sources and application of radiological safety measures acquired through regular education , specialist education or additional education, for which there must be written evidence, and for which there are no security obstacles to the performance of the undertaken obligation.
Radioactive waste generator may perform certain disposal processes for the of radioactive waste, except for storage and disposal, but in accordance with the Law radiological and nuclear safety and on the basis of the approval for performing the activity of radioactive waste disposal.

Additionally, due to the current epidemic COVID-19 inadequate implementation of defined preventive and mitigation measures poses sever risk of possible COVID-19 disease and its transmission.

7.2 Social impacts

No major adverse social impacts are expected under project (Component 2). Implementation of the Component 2 activities will have positive social impacts and urgently needed.

Under the project, people with disabilities will benefit from the universal access design features of the rehabilitated public health laboratories.

Furthermore, energy efficiency measures are also likely to produce positive outcomes, by contributing to national objectives of reducing energy consumption and GHG emissions.

The envisaged civil works are expected to take place in existing health care facilities, producing predictable, localized, limited, and temporary social impacts that are easily mitigated. Risks involve general occupational health and safety hazards such as: use of heavy equipment, trip and fall hazards, exposure to noise and dust, falling objects, exposure to hazardous materials (e.g. paints and varnished) and exposure to electrical hazards from the use of tools and machinery. Persons under the age of 18 will not be employed under the project. Many workers will be exposed to occupational health and safety hazards, primarily including but not limited to:

- Working at height;
- Electrocutions and Electrical works;
- Traffic accidents;
- Lifting of heavy structures;
- Accidents with exposed rebars;
- Exposure to construction airborne agents (dust, etc.);
- Ergonomic hazards during construction;
- Vibration of heavy construction equipment;
- Use of rotating and moving equipment;
- Lack of workers' awareness on occupational health and safety requirements such as the use of personal protective equipment (PPE) and safe workplace practices;
- Exposure to hazardous substances (e.g. paints and varnishes);
- COVID-19 risk.

Civil works may case temporary disruptions to nearby communities such as: increased levels of noise, dust, or temporary disruptions to traffic, risk of road accidents for pedestrians, disruptions in utility services due to accidents or planned interventions (water, gas, electricity) and poor occupational health and safety practices, including those that do not prevent COVID-19 transmission.

No involuntary resettlement impacts are anticipated, and no resettlement and land acquisition will take place. Any activities that might cause land acquisition or involuntary resettlement will not be eligible for financing.

The adverse social impacts might be associated with the labor safety and health issues in case the prescribed mitigation measures are not followed by contractors during the execution of the civil works or installation of the new equipment in laboratories.

The procurement of supplies and medical equipment have limited, if any, impacts. The distribution of medical supplies and equipment procured with World Bank funding to health facilities is anticipated to commence immediately.

The potential risks associated with this activity include:

- the emergency nature of these activities and the urgency of the tasks pose the risk of excessive working hours by drivers and potential risks of accidents and
- there is the possibility of interactions with health care workers and exposure to contaminated materials at health care facilities

Both these risks are considered low, in light of the finite duration of the activity, and will be mitigated in accordance with national labor and OHS policies as well as adhering to appropriate measures defined in this ESMF.

Attention is required to ensure all Good International Industry Practices (GIIP), WHO guidance, Environmental Health and Safety (EHS) Guidelines of the World Bank Group, and national guidances are applied to the COVID-19 waste stream as part of the medical waste management system in place.

Labor related risks, typically associated with a large and diverse workforce which is not case for this project, child labor, and gender-based violence issues are not likely to occur. All contractors and most of the workers employed in construction activities are likely to be local. However, labour influx is not excluded. For certain occupations worker shortages is identified, and as a result, there is an increased and sustained demand for them in the Croatian labor market. These occupation are linked to construction sector.

The project will be implemented in strict adherence to the principles of equality and non-discrimination.

Access to services and supplies, funded under the project, will be provided to all people, regardless of their social status, based on the urgency of the need.

7.2.1 Labor and working conditions

ESS2 categorizes the workers into: direct workers, contracted workers, community workers and primary supply workers.

Project workers include the MoPPCSA and MoH staff, consultants, and contracted /subcontracted workers. Project activities will not require hiring of community workers.

The project footprint is relatively small and does not entail a significant amount of labour, as the rehabilitation works will be small to medium scale, so it is unlikely that a large number of workers would be needed.

Primary supply workers are not relevant as the project will unlikely source goods or materials from a single supplier on an on-going basis.

The main Project Implementation Unit (PIU) will be established within the MoPPCSA. The MoPPCSA PIU (PIU-1) will be responsible for civil works under Component 2 (repair and rehabilitation of public health laboratories). A second PIU, the MoH PIU (PIU-2), will be established within the MoH and will be responsible for all activities under Component 2, except civil works

MoPPCSA and MoH staff are civil servants and will remain subject to the terms and conditions of their existing public sector employment agreements. Potential institutional capacity strengthening will be done through hiring consultant to perform specialized tasks such as: environmental and social safeguards functions. This consultant would be part of PIU and paid through the loan funds. The project will also deploy contractors and very likely subcontractors for civil works, providing medical supplies and equipment and trainings, but the number of workers to be contracted/subcontracted is not known yet.

Direct Workers: The MoPPCSA and MoH staff, who are civil servants involved in project activities. In addition, potential institutional capacity strengthening will take place through the hiring of a consultants. These consultants, along with MoPPCSA and MoH staff would be part of project implementing units.

Contracted Workers: The civil works, procurement of supplies and equipment and trainings (e.g. developing and implementing trainings, communication and educational materials on COVID-19) are expected to be conducted by authorised contractors for varying durations depending on the works requirements. It is not known at this time whether the contractor will engage any subcontractors to carry out some aspects of the work. The contractor must perform and ensure work and workers related to the core function of the project. Such functions of a project constitute those production and/or service processes essential for a specific project activity or activities without which the project cannot continue. At this stage the exact number of workers is not known, and it will be known when implementation of sub-projects begins.

Primary supply workers are those that work for companies involved in the provision of medical supplies, PPE, chemicals, reagents, construction materials for repairs and rehabilitation of laboratories, etc.

8 IMPACT MITIGATION AND DUE DILIGENCE DOCUMENTS AND DECISIONS

Construction Phase

Under the Component 2, Subcomponent 2.1. - ***Case management and surveillance***, pose environmental risks since they include civil works – repair and rehabilitation of public health laboratories.

Activities under Subcomponent 2.1 carry risks typical for construction works: dust and noise emissions, accidental spillage of machine oil, lubricants, traffic disruption, generation of large quantities of construction waste, unsafe working conditions, poor occupational health and safety practices.

The potential risks and impacts are (i) predictable and expected to be temporary (ii) low to medium in magnitude; (iii) site-specific, without likelihood of impacts beyond the actual footprint of the project; and (iv) low probability of serious adverse effects to human health and/or the environment. The project's risks and impacts can be easily mitigated in a predictable manner.

Possible impacts identified for 2.1. (civil works) works can be easily removed or mitigated by applying of good construction practice and proper organisation of the construction site.

Emissions to air can be reduced to minor levels or eliminated through standard practices of good site management, such as water sprinkling to limit dust emissions in the area near the construction materials and non-asphalted roads, covering of surfaces with plastic coverings during material storage and transportation, limiting vehicles speed in the area and access roads, periodical cleaning of location and access roads, efficient use of modern attested construction machinery to minimize emissions, provided with mufflers and maintained in good and efficient operation condition. Additionally, to minimize dust (mainly PM_{10}) adequate locations for storage, mixing and loading of construction materials should be established. Also, material collection, material retention time at the site should be reduced to a minimum, in order to minimize exposure to wind.

To remove/mitigate **noise pollution** emission of noise must be in compliance with legally defined limits. It is desirable to carry out works in the period from 8 to 18 hours and not to carry works during the nights. Community / public should be informed in advance of any work activities to occur outside of normal working hours or on weekends. All equipment must be maintained in good operating condition and be attested. During operations the engine covers of generators, air compressors and other powered mechanical equipment have to be closed, and equipment placed as far away from residential areas as possible.

Surface or ground water pollution can be prevented by proper organization of construction site, by regular maintenance of vehicles and machinery in service centres outside the site locations and responsible handling of liquid waste. Adding oil activities should be carried out on the part of the construction site that is derived from an impermeable working surface. In the case of an accident, any hazardous liquid should be removed from the soil using adsorption materials such as sand, sawdust or mineral adsorbents. Such waste material should be collected in tanks, stored in the space provided for hazardous waste storage and handed over to authorized companies. The probability of this negative impact also can be reduced by preventing hazardous spillage coming from tanks, containers (mandatory secondary containment system, e.g. double walled or bunded containers), construction equipment and vehicles (regular maintenance and check-ups of oil and gas tanks), by parking (manipulate) machinery and vehicles only on asphalted or concrete surfaces with surface runoff water collecting system.

The proper storm water drainage systems should be in place and care not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes by construction activities.

Possibility of **soil pollution or erosion** can be reduced by regular maintenance and servicing of machines, by avoiding fuel and lubricant storage on site and by adhering the measures and standards for construction machinery. If installation of fuel storage tanks will be needed, they should have secondary tanks with sufficient volume to contain a spill from the largest fuel tank in the structure. The containment area will have a device (pump) to remove accumulated water. Total amount of the removed useful surface layer upon completion of construction works permanently will remain in the same location in the form of backfilling material. The physical and chemical properties of the temporarily removed surface layer of soil will remain unchanged, as well as the non-contamination and ecological role, since all the amount of soil from the possible excavations will be preserved and subsequently used in environmental remediation upon completion of construction works.

Each type of **generated waste** on the location has to be temporary stored in separate waste container which have to be labelled with waste type name and waste code and located at the solid surface foreseen for that purpose on the construction site. Construction waste has to be disposed exclusively in the designated locations. For management of PPE waste (protective gloves, masks, etc used for COVID-19 protection) it is necessary to follow the WHO and national official government guidance's and defined measures. This type of waste generated at construction site is considered municipal waste. Currently, Croatia has stricter conditions for managing waste protective equipment (gloves, masks, paper towel etc.) then those prescribed by WHO and EU guidelines. The Civil Protection Headquarters of the Republic of Croatia[147] issued recommendation for the waste management in the households and similar enclosed spaces (municipal waste). These recommendations should be applied for waste generated from usage of COVID-19 PEE at the construction site.

Procedure for chance findings and protection of **cultural and historical heritage** (protection of cultural-historical entities/area is relevant for this project) protection of is legally defined and should be applied. If during construction works some archaeological finds are encountered, works have to be stopped immediately and the competent authority informed. Works will resume only after appropriate measures have been taken as required by relevant authority and after it confirms that works may continue.

To protect **biodiversity** the movement of heavy machinery have to be restricted to the road corridor. Handling of equipment and machinery have to be professional and careful to try to break out accidents such as fires or spills of large amounts of harmful substances into the environment, and thus adversely impact on the present flora and fauna. Work along watercourses and on watercourses and canals should be limited to as small an area as possible. It should be avoided, where possible, cutting of trees and other natural vegetation. In the case of removing vegetation, to prevent unnecessary loss of vegetation in the project area it is necessary to clearly mark the areas where vegetation will be removed. For the restoration of the removed natural vegetation cover, only autochthonous plant species that occur in the vegetation communities present in the wider area of the sub-project should be used.

It is desirable that the potential removal of vegetation is planned for the period when birds do not nest. All birds that nest they need to protect until their birds can fly. In case of finding the nests of endangered bird species, their disturbance should be prevented, and the central state body responsible for nature protection informed about the discovery.

Where possible, the area under rehabilitation has to be fenced to lessen even occasional disturbance and dust on habitats and biodiversity. If noise barriers need to be constructed, they should be opaque

[147] https://civilna-zastita.gov.hr/vijesti/preporuke-za-kucanstva-i-ostale-zatvorene-prostore/2289

or with a design and density of stickers that will prevent birds from entering the barriers as much as possible.

Traffic management have to be conducted in accordance with provisions of traffic legislation (e.g., appropriate lighting, traffic safety signs, barriers and flag persons that are seen easily or are easy to follow, road speed should be clearly posted). Transport should be avoided on access roads during rush hours.

Given the small to medium scale nature of civil works under sub-component 2.1., no major labor risks are envisaged. If there will be a need for the migrant/foreign workers, The working conditions and terms of employment of migrant workers (domestic or foreign) should be the same or substantially equivalent to those of nonmigrant project workers performing the same type of work. This applies to migrant project workers employed or engaged directly by the Borrower or through a third party.

Accidents leading to health damage and even casualties may occur in the course of construction. To minimize the risk of negative health impact and accidents constructors should:

- ensure mandatory use of protective equipment, workers' personal protective equipment and safety procedures comply with legislation and international good practice (e.g. wearing protective helmets, masks and safety glasses, harnesses and safety boots, etc.);
- ensure that workers receive worksite safety training,
- ensure that procedures for cases of emergency (including spills, accidents, etc.) are available at the site
- ensure that workers operating large equipment are properly trained and licensed
- ensure that construction equipment is inspected and licensed
- ensure that construction equipment is used strictly following its operation instructions;
- keep first aid medical kits and fire-fighting equipment on site;
- ensure suitable arrangements for all necessary welfare and hygiene requirements and for the prevention of COVID-19 epidemics (regular delivery of PPEs, ensure protocols for regular disinfection of rooms, equipment, tools, are in place and followed, ensure handwashing and other sanitary stations are always supplied with clean water, soap, and disinfectant, etc)
- ensure trainings for workers on hygiene and other preventative measures against COVID-19 are carried out.

Construction works, especially the operation of machinery, may cause a nuisance to nearby residents caused by noise, dust, and vibration. To minimize this impact:

- keep construction equipment and machinery in an adequate technical condition; avoid idling of engines;
- water work sites in the course of dusty works or in case of especially hot and dry weather conditions;
- ensure that community is informed in advance of any work activities to occur outside of normal working hours,
- works do not impede pedestrian access and motor traffic, or temporary alternative access is provided

Given the concentrated number of workers, there is a potential for the spread of infectious disease (COVID-19) at construction site, as are the implications of such a spread.

Contractor must ensure mitigation of these risks by adhering to WHO guidelines as well as Environmental Health and Safety (EHS) Guidelines of the World Bank Group and other good international industry practice (GIIP), and national guidances and procedures.

For now, Croatia has stricter conditions for managing with waste protective equipment (gloves, masks, paper towel etc.) and other types of waste from households and similar activities, then those prescribed by WHO and EU guidelines. Waste from PPE equipment for COVID-19 originating from construction site should be classified as municipal waste.

Waste (e.g paper towels, masks, gloves etc.) and disposable cleaning cloths can be disposed in single-use bags for waste. Such a bag should then be placed in another bag, tied tightly and kept separate from other waste. This waste should be set aside for at least 72 hours before disposing in container for mixed municipal waste.

Given that the epidemiological situation is of a changing nature, it is necessary to continuously monitor the WHO guidelines and the guidelines on the official Government website for accurate and verified information on COVID-19 and apply them at the construction site

Ministry of Labor and Pension System developed guidance for the implementation of safety and health protection measures at work during the execution of construction works and implementation of safety and health measures in circumstances of risk of infectious disease COVID-19[148].

Contractors should develop specific procedures so that adequate precautions are in place to prevent or minimize an outbreak of COVID-19, and it is clear what should be done if a worker gets sick. These will as minimum include:

- Entry/exit to site or the workplace will be minimized, and measures will be put in place to limit contact between workers and the community/general public
- Trainings for workers on hygiene and other preventative measures will be carried out
- Adequate supplies of PPE (medical masks, gloves, hand washing soap and sanitizer; and effective cleaning equipment), will be put in place,
- Instruction in case worker gets ill.

While preparing the site-specific procedures applicable guidance materials provided in Error! Reference source not found. **have to be used and during implementation of the sub-projects updated regularly.**

Operational Phase:

The utilization of medical equipment and supplies related to the emergency response to COVID-19 component, carries specific risks to the environment, communities, and project workers. Such risks may include insufficiency of the design and quality of safety arrangements to be put in place within hospitals, laboratories, and other related premises for avoiding internal spread of infection and its transmission to hospital personnel; or the inadequacy of medical waste management systems and facilities related to the handling, transportation and disposal of hazardous and infectious healthcare waste. Health workers, waste handlers, users of health facilities and the local communities along the transportation routes of medical wastes and around disposal facilities are all exposed to infection as a result of poor health care waste management.

The organization of medical waste management is of the highest concern related to other risks associated with the project. The same stands regarding the infrastructure and equipment design and

[148] http://uznr.mrms.hr/uputa-za-provedbu-mjera-sigurnosti-i-zastite-zdravlja-na-radu-prilikom-izvodenja-gradevinskih-radova-na-sanaciji-objekata/
https://mrms.gov.hr/UserDocsImages/dokumenti/Uprava%20za%20rad/UPUTA%20ZA%20POSLODAVCE%20I%20RADNIKE_COVID%2019_letak-travanj_2020.pdf

safety management and safety of hazardous materials. The project will mitigate these risks by adhering to WHO guidelines as well as Environmental Health and Safety (EHS) Guidelines of the World Bank Group and other good international industry practice (GIIP) and national regulation.

As per World Bank guidelines, where the scope of financing includes medical supplies and equipment, the MoH PIU staff have to ensure that the supplies and equipment were provided to a facility or laboratory that functions in accordance with national laws (or accepted industry standard) for operational health and safety, waste management and Grievance Redress Mechanism (GRM). In doing so, the MoH PIU will verify and demonstrate that the following measures are in place: adequate waste management systems; functioning (GRM) including at the beneficiary facility or laboratory; and that staff at beneficiary facilities or laboratories have received adequate training on the use of the supplies and equipment. Transport of dangerous goods should be conducted in line with Act on the transport of dangerous goods (OG 97/07, 70/17)[149].

8.1.1 Due diligence documents and decisions

According to the national legislation, environmental impact assessment is obligatory for interventions defined in Annex I of the Regulation on environmental impact assessment (OG 61/14, 3/17). In Annex II and Annex III of that Regulation interventions for which screening procedure has to be carried out are defined.

Ministry of Economy and Sustainable Development is responsible for the procedures defined by Annex I and II, while administrative body in the county or in the City of Zagreb is responsible for the implementation of interventions defined by Annex III. Criteria for defining is environmental impact assessment necessary or not are defined in Annex V.

For interventions which have possible significant negative impact on the environment and which are not listed in Annex I, II and III of the Regulation on environmental impact assessment, an opinion from competent authority (County, City of Zagreb) has to be obtain on is screening, or EIA needed or not.

For activities under Subcomponent 2.1: Case management and Surveillance – repair and rehabilitation of public health laboratories environmental national instruments should be applied in case of repair / rehabilitation works:

Activity– Repair / rehabilitation of public health laboratories (Subcomponent 2.1):

Activity is not listed in Annex I, II and III of the Regulation on environmental impact assessment (OG 61/14, 3/17) and does not have possible significant adverse impact on the environment, hence ***environmental impact assessment does not have to be conducted.***

If sub-project is located in the Natura 2000, according to the Nature protection act (80/13, 15/18, 14/19, 127/19) ***it is obligatory to submit Request for a preliminary assessment of the acceptability of the project to the ecological network*** to the competent authority (County or City of Zagreb) depending on the location of sub-project.

[149] This Act defines all necessary requirements and standards aimed to determine the correct procedures and methods for the safe and secure transport and/or transport related activities on the territory of the Republic of Croatia when dealing with dangerous goods.

In addition, if the sub-project is located in the nature protected area ***it is obligatory to obtain permission from competent authority depending on the type of protected area***[150].

For minor repairs of the laboratories, application of this instrument may not be necessary but after the consultation with competent authority.[151]

Table 17. National due diligence documents and decisions by Project activities

Activiti No.	Subcomponent	Type of activity	Description	Screening/EIA (Yes/No)	Procedure according to the Nature protection act
2	Subcomponent 2.1.	Repair / rehabilitation	Repair / rehabilitation of public health laboratories	**No**	If a sub-project is located in NATURA 2000 area or nature protected area: - Request for a preliminary assessment of the acceptability of the project to the ecological network - Permission regarding interventions in the nature protected areas (for interventions and research in the area of strict reserve, national park, special reserve and nature park permission is issued by MoESD. For interventions and research in the area of natural monuments, regional parks, significant landscapes, forest parks and monuments of park architecture permission is issued by administrative body, counties and City of Zagreb). *For minor repairs of the laboratories, application of this instrument may not be necessary but after the consultation with competent authority.*

[150] For interventions and research in the area of strict reserve, national park, special reserve and nature park permission is issued by MoESD,
For interventions and research in the area of natural monuments, regional parks, significant landscapes, forest parks and monuments of park architecture permission is issued by administrative body (county and City of Zagreb)

[151] http://www.haop.hr/sites/default/files/uploads/publications/2017-12/PRIRUCNIK%20ZA%20OPEM.pdf

Due to declaring a natural disaster in the area of City of Zagreb, Krapina-zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County, caused by earthquakes, according to the Articles 129 and 130 of the Construction Act, exception regarding building permitting process applies for construction works on earthquake damaged buildings. Accordingly, the earthquake damaged building can be returned to its original condition without obtaining a building permit.

Civil works under the Subcomponent 2.1 for earthquake damaged buildings (activities of repair and rehabilitation of public health laboratories) must be performed according to Act on Reconstruction of Earthquake Damaged Buildings in the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County and Karlovac County (OG 102/20, 10/21, 117/21), respecting all legislation to which the Act refers.

Necessary administrative procedure and required technical documentation will depend on the type of civil works - levels of reconstruction of earthquake damaged building in relation to mechanical resistance and stability.

Damaged buildings must be renovated based on project of reconstruction of the building construction[152] and project of the complete reconstruction of the building. While preparing these projects the provisions of existing construction regulations governing the issue of meeting the basic requirements for construction in the main project must apply. In the case that building is an individually protected cultural heritage or located in the historic urban ensemble of the City of Zagreb, projects must be prepared in accordance with special conditions determined by the competent body (in accordance with the regulations governing the protection of cultural heritage).

Declaring natural disaster and adoption of special Act regulating renovation of earthquake damaged area does not suspend application of environmental protection and OHS legislation. Furthermore, elements of Construction Act regulating environmental and social protection have to be respected during renovation process.

Detail regarding necessary technical documentation in relation of type of civil works - levels of reconstruction are defined by Technical Regulation for Building Structures (OG 17/17,75/20) and are presented in Chapter 4.1.5.2 and ANNEX VII of this ESMF.

In a case that civil works are conducted on building that was not earthquake damaged regular building permitting procedure must be followed (see **Error! Reference source not found.** and ANNEX VI).

The project (Component 2) will finance small to medium scale repair and rehabilitation works on the public health facilities and will have certain social and environmental impacts. Based on review of available project documents and discussions with Ministry representatives, works associated with repair and rehabilitation of buildings are not expected to have significant and irreversible negative impact on the environment. **Repair and rehabilitation works are expected to have small to medium environmental and social impacts, thus development of ESMP Checklists (Annex X) should be sufficient (no need for the full-scale ESIA).**

Cultural heritage related risks will be addressed through the development of **Cultural Heritage Management Plan (CHMP)** and, where applicable, with integrated conditions obtained in opinions and permits of competent authorities for interventions into physical cultural heritage. CHMP will be annex to ESMP Checklist.

[152] The project of reconstruction of the building structure designs the repair of the structure, reinforcement of the structure and / or complete reconstruction of the structure and, if necessary, repair of non-structural elements.

Infection Control and Waste Management Plan

A detailed Infection Control and Waste Management Plan (ICWMP) is described in ANNEX XIII. The MoH is responsible for implementing the legal framework managing environmental and social risks in the health sector and develop various instruments to address priority health issues.

The MoH medical facilities are utilizing services of the private sector for the collection and transportation of health care wastes to the licensed waste management treatment companies. Identifying gaps and preparing Infection Control and Waste Management Plan (ICWMP) will be important to address the risk of COVID-19. The medical facility will receive project support if no critical gaps are found. This goes along with the capacity building of healthcare staff and other stakeholders involved in the effective implementation of ICWMP. It is mandatory that all medical facilities receiving project support use services of licensed medical waste management contractors.

In the event that screening or monitoring identifies gaps with the ICWMP hospital management will be alerted and remedial actions agreed. Remedial actions may involve, for example, strengthening of hospital practices and oversight regarding handling and disposal of medical waste, identification of alternative waste disposal sites and transportation measures to ensure that medical waste is safely transported to adequate waste disposal areas. Only when adequate measures are put in place and confirmed by MoH PIU, may project activities begin or resume.

Medical waste management. The MoH PIU and medical facility will ensure the following:

- Each medical facility is operated in accordance with the ICWMP;
- Waste separation, packaging, collection, storage disposal, and transport is conducted in compliance with the ICWMP and WHO COVID-19 Guidelines;
- Onsite waste management will be reviewed regularly and training on protocols contained in the ICWMP conducted;
- The MoH PIU (PIU-2) will monitor off-site waste disposal required and institute any remedial measures required to ensure compliance; and
- Waste generation, minimization, reuse, and recycling are practiced were practical in the COVID-19 context.

Protecting healthcare workers. The MoH PIU and medical facility will ensure the following:

- Regular delivery and proper storage of goods, including samples, pharmaceuticals, disinfectant, reagents, other hazardous materials, PPEs, etc.;
- Develop protocols for regular disinfection of public rooms, wards, equipment, tools, and waste are in place and followed;
- Handwashing and other sanitary stations are always supplied with clean water, soap, and disinfectant;
- Equipment such as autoclaves are in working order; and
- Provide regular testing to healthcare workers routinely in contact with COVID-19 patients.

Containment of COVID-19. The MoH PIU and medical facility will ensure the following:

- Quarantine procedures for COVID-19 patients are maintained;
- When practical, COVID-19 patients are given access to phone or other means of contact with family and friends to lessen the impact of isolation in quarantine;

- The public is regularly updated on the situation and reminded of protocols to prevent the spread of COVID-19; and
- Members of the general public (family and friends) who have been exposed to confirmed COVID-19 patients are tested.

Stakeholder Engagement Plan (SEP) is an instrument that is describing the planned stakeholder consultation and engagement process for the Project, as well as, the grievance mechanism for people to raise any concerns about the Project activities.

Stakeholder refers to individuals or groups who are affected or likely to be affected by the project (**project-affected parties**) and may have an interest in the project (**other interested parties**).

The term "stakeholder engagement" is a way to describe a broader, more inclusive and continuous process between a project developer and those potentially affected by a projects/(sub-) projects.

Stakeholder engagement can encompass a range of activities and approaches, including consultation, engagement, external relations, information disclosure and dissemination, and community participation. Stakeholder Identification and Analysis involves determining who the project stakeholders with more in-depth look at the interests of stakeholder groups, how they will be affected, and what influence they can have on a project. **Grievance Mechanism and Management** must be part of it.

The Initial Stakeholder Engagement Plan is prepared before project appraisal, and was disclosed on the MoPPCSA and WB website on May 6, 2020. **It will be updated periodically as necessary.**

8.1.1.1 Environmental and Social Review (Step-by-Step}

For projects involving multiple sub-projects the World Bank requirements involve mandatory review of adequacy of local environmental and social requirements relevant for the subprojects, as well as assessment of the Borrower's capacity to manage the environmental and social risks and impacts of such sub-projects, particularly, Borrower's capacity to (a) perform sub-projects screening; (b) ensure necessary specialists for conducting environmental and social assessment; (c) review findings of environmental and social assessment for individual sub-projects; (d) implement mitigation measures; and (e) monitor environmental and social impact during project implementation. The WB requires appropriate environmental and social assessment of sub-projects is carried out, and prepare and implement such sub-projects, Substantial Risk, Moderate Risk and Low Risk subprojects, in accordance with national law and any requirement of the ESSs that the Bank deems relevant to such sub-projects by developing **and following procedures to secure ESF and regulation compliant implementation**. If necessary, the project may envisage measures to further strengthen Borrower's capacities.

The PIU (PIU 1 for civil works for Component 1 and Component 2) and PIU 2 for all activities under the Component 2, except civil works, will ensure, that environmental management is an integral part of sub-project planning, design, implementation, and operation and maintenance. The PIUs will screen, monitor and report on the environmental and social performance, national legislation and ESF compliance under each sub-project ensure efficient application of measures as defined in site-specific management instruments including ESMF.

Each sub-project and its activities must undergo environmental and social assessment compliant to this ESMF, and consequently the ESF integrating stakeholder engagement activities including consultation and feedback.

The Environmental and Social assessment will follow the 5 step Process to identify risks associated with specific sub-projects, screen out any high-risk activity, identify potential impacts and define measures aimed to prevent or minimize negative impacts and determine the type of management instrument required to meet the project standards.

STEP 1: Sub-project screening and risk classification

The Environmental and Social Screening Questionnaire (ESSQ) provided in Annex IX contains questions about the project (type of the proposed activities – repair/rehabilitation, use of hazardous or toxic materials, impacts on protected areas, etc.)

Environmental and Social Screening Questionnaire is prepared by the PIUs under the guidance of the PIUs Environmental and Social Specialists (ESS). Once the ESSQ has been satisfactorily completed, the PIU and the ESS will submit the document and the E&S Screening report to the WB.

Screening according to the World Bank risk classification identifies that sub-projects under Component 2 are **low and moderate risk**.

The ESSQ helps the ES specialist to determine the sub - project risk classification based on screening criteria and preliminary impact assessment.

Determining risk will take into account relevant issues, such as the type, location, sensitivity, and scale of the project, etc.

The final decision requires endorsement of the World Bank.

Before the assessment, PIU prepares a screening report, subject of the approval from WB Environmental and Social Specialists, who confirms the risk.

STEP 2: Sub-Project Preparation

The PIU prepares necessary documentation for sub-project implementation including, Technical documentation, for the sub-project to be financed including the technical description of the sub-project, permits and approvals issued by competent bodies related to the implementation of the sub-project as well as the time schedule of works.

STEP 3: Preparation and Disclosure of ESMP Checklist, CHMP and public consultations and preparation of ICWMP

Repair and rehabilitation works are expected to have small to medium environmental and social impacts, thus development of ESMP Checklists (ANNEX X - ESMP CHECK LIST TEMPLATE) will be developed (no need for the full-scale ESIA). Cultural heritage related risks will be addressed through the development of Cultural Heritage Management Plan (CHMP) and, where applicable, with integrated conditions obtained in opinions and permits of competent authorities for interventions into physical cultural heritage. CHMP annex to ESMP Checklist.

A detailed Infection Control and Waste Management Plan (ICWMP) is described in ANNEX XIII, and will be prepared by healthcare facilities subject to Component 2 and regularly monitored by MoH PIU. This have to be prepared for all facilities/sub-projects before commencement of activities and/or delivery of goods or services , by the PIUs Environmental and Social Specialists, and shall be subject to review and approval of the WB.

The Project Implementation Unit (PIU) within the MoH will include Environmental and Social (ES) Specialist responsible for the implementation of this ESMF, except for the implementation of civil works. The latter will be managed by the ES Specialist in the PIU set under the MoPPCSA also responsible for the implementation of the Component 1.

The ESMP checklists are to be prepared by an MoPPCSA ES specialists. They will decide, on a case-by-case basis on required ESS documentation. When confident that the document meets WB quality and content requirements ES specialist submits the draft documents for the review by the World Bank. After the approval is obtained, the documents must be publicly disclosed. Documents reflecting relevant comments obtained in the public consultations will be considered finalized. ESMP Checklists will constitute an integral part of bidding and contracting documentation for contractors. All documents need to be prepared in Croatian and English language. When satisfied with the quality of ESMP Checklists, the Bank may decide to perform only post review of these documents.

Table 18. Specific responsibilities for the identification, assessment and addressing environmental and social aspects of the project activities, by implementing body

Responsibility	Implementing body
Preparation of site-specific ESMP Checklists and CHMP	MoPPCSA PIU
Review and approval of site-specific ESMP Checklists and CHMP	WB
Integration of site-specific ESMP Checklists and CHMP into Bidding Documents and respective Contracts	MoPPCSA PIU
Execution of site-specific ESMPs Checklists and CHMP	Respective Contractor(s) and MoPPCSA PIU
Monitoring and reporting of compliance with ESMF and site-specific ESMP Checklists and CHMP	MoPPCSA PIU and supervising engineer
Reporting compliance to WB	MoPPCSA PIU

Public consultation and engagement are covered in national legislation, including the right to address petitions, request information on projects carried by public bodies, consultation of neighbors and communities, etc. Additionally, the processes for reaching and informing potentially impacted persons and communities will be amended by WB principles, and by engaging actively with these persons/groups, especially with vulnerable groups where such situations will surface.

These aspects are dealt in the current document, under the provisions for Grievance Redress Mechanism, Public Consultation and Social Risk mitigation measures and also through SEP.

Employees within PIU -1- and PIU-2 will be responsible for publishing the documents to the public and introducing the public in the whole process of project realization.

a) **Disclosure package for Draft ESMP Checklist/CHMP** will include the following documents: Public announcement for organization of the public disclosure containing the call for comments, Draft version of ESMP Checklist developed for each sub-project –Form for submitting comments and suggestions, Grievance form.

The disclosure package will be publicly available on the website of the MoPPCSA (https://mgipu.gov.hr/) and website of the MoH (https://zdravlje.gov.hr/). Hard copies will be available in MoPPCSA and MoH.

Form for submitting comments and suggestions, Grievance form will be ensured.

All comments from the public will be addressed and if needed reflected in the ESMPs checklist.

Information about upcoming public consultations during the preparation of ESMPs Check list/CHMP for respective sites will be posted on the website of the MoPPCSA and MoH (press releases in the national and local media). It will also be disseminated using other information channels, like

leaflets/flyers in public spaces and notes on the construction sites. The PIUs will also explore means to disseminate this information in accessible formats, both online and offline.

The design and organization of the consultation meeting will take into account the COVID19 national and WHO rules and recommendations.

All comments and questions shall be processed and together with feedback incorporated in the final version of the ESMP Checklist/CHMP and captured in the minutes of the meeting.

The MoPPCSA PIU will submit such final document with the confirmation of re-disclosure, and where documents can be accessed to the WB.

The MoH PIU and medical facility will ensure that each medical facility subject of project activities prepare and operate in accordance with the ICWMP. The MoH PIU (PIU-2) will monitor any off-site waste disposal required and institute any remedial measures required to ensure compliance with.

STEP 4: Integration of ESMP Checklist/CHMP in tender documents

ESMP Checklist/CHMP will be prepared prior to the bidding of works and the final version integrated into tender documents for the selected sub-projects and in the contracts for their execution to be signed with the selected works contractors. The Contractors will be required to demonstrate that all mitigation measures have been accounted for to ensure subproject implementation in environmentally and socially acceptable manner.

STEP 5: Implementation, project supervision, monitoring and reporting

The contractor (and consequently all its sub-contractors) is responsible for the implementation of ESMP Checklist/CHMP measures and monitoring plan. MoPPCSA PIU regularly supervises works through site visits, review of documentations and other available means. Supervising engineer is responsible for regular reporting of ESMP Checklist compliance to the MoPPCSA PIU. In the same time the MoPPCSA PIU reports on ESMF and ESMP Checklist/CHMP implementation compliance to the WB in quarterly reports and regular progress reports. Reporting arrangements are subject to change depending on the PIU performance and agreement with the WB.

9 PROJECT IMPLEMENTATION SETTING

9.1 Implementation

Croatia Earthquake Recovery and Public Health Preparedness Project – **Component (2) - Public Health Surveillance and Preparedness** will be implemented by the Project Implementation Unit (PIU-1) that will be established within the MoPPCSA and PIU-2 that will be established within MoH.

The main Project Implementation Unit (PIU-1) will be established within the MoPPCSA. The MoPPCSA PIU will be responsible for Component 1, as well as civil works under Component 2 and will be accountable for reporting to both the World Bank and the PSC on all Project activities and progress. A second PIU, the MoH PIU (PIU-2), will be established within the MoH and will be responsible for Component 2. Component 3 will finance all operational functions of the PIUs including building staff capacity in technical, procurement, FM, environmental and social safeguards, and communication.

Each PIU will be responsible for overall implementation of its respective activities, including functions such as FM, procurement, technical inputs, progress monitoring, quality control, and social and environmental safeguards. The focal point within MoH is declared for E&S issues under their Component.

Main Responsibilities of MoPPCSA and MoH PIUs regarding *environmental and social policies and standards*:

a) Implements activities related to environmental and social policies and standards in accordance with the provisions of the loan agreement, ESCP and ESF;
b) Ensures that the terms of reference for any design consultancy services incorporate the World Bank requirements and environmental and social policies and standards as defined under the this ESMs and sub-project ESMPs Checklist/CHMP, including consultations on the results of environmental and social impact assessments and draft ESMPs Checklist/CHMP, timely disclosure of draft and final ESMPs Checklist/CHMP and screening for gender based violence (GBV);
c) Ensures technical coordination of activities related to the preparation and implementation of ESMPs Checklist/CHMP
d) Demonstrates, in the manner acceptable to the Bank, compliance of finalized works with the ESF;
e) Ensures that the execution of construction works is in accordance with the ESMF and site-specific mitigation measures; Manages the GRM to monitor, respond and report on feedback provided by the public on the project's activities
f) Collaborates with the Communication and legal expert on communication about project activities to direct beneficiaries, affected persons and the wider public, particularly inclusive public outreach activities that are sufficiently nuanced and targeted effectively towards vulnerable groups (e.g. men/women, disabled, youth/elderly etc.);
g) Explores opportunities to consult and engage with project beneficiaries and members of the general public
h) Develops a monitoring system of the activities, carries out and updates continuously the data base related to the implemented activities in order to dispose at any time of relevant monitoring information comparable and compatible concerning the problems of environmental protection on sites;
i) Monitors implementation of environmental and social policies and standards' activities including risks, impacts and mitigation measures in compliance with ESMF. These include measures to mitigate the impact of construction activities, as well as health and safety protection measures

and reporting of any incidents as per ESIRT; prepares and submits the initiation of legal documents for the approval of investments in accordance with the legal provisions in force;

j) Ensures the execution of the construction works in accordance with the general ESMF and relevant site-specific ESMPs Checklist/CHMP and monitors and reports the social and environmental aspects of the project throughout its period of operation;
k) Prepares monthly reports and inform the project manager whenever there is a deviation from the pre-established program, in order to review the work plans;
l) Prepares periodic reports as defined by ESCP, for the World Bank and the Government and cooperates for the realization of the biannual reports on the implementation state of the project;
m) Maintains contact with environmental and social specialists of the World Bank, and asks for advice on any problem that requires guidance regarding the activity in the field.

Oversight and guidance for the implementation of the SEP will also be provided by PIU (by the head of each PIU). The PIU will coordinate with other relevant government entities (e.g. the Ministry of Science and Education, Civil Protection Administration, etc.) and non-government organizations.

Required staff who will be engaged for project is shown in the Table 19.

Table 19. PIU-2 (MoH) staff engaged for the Project

Type of staff	Number of staff
Project Manager	1
Deputy Project Manager	1
Financial Manager	1
Technical Manager - Architect	1
Procurement experts	2
Financial experts	1
Social/environmental experts	1
Monitoring/assessment experts	1
Communications and community outreach specialist (FGRM focal point)	1
Legal counsel/ legal advisor	1
Total:	**11**

Overall coordination of all activities for Component 2 (except for civil works) will be done by Service for strategic planning, structural reforms and International loans which will be the PIU -2. Civil servants employed in the Service have extensive experience in implementing WB projects.

Procurement will be done by employees of the MoH, within the Public Procurement Sector. It consists of two units: (a) the Public Procurement Planning and Preparation Unit, and (b) the Public Procurement Implementation Unit, employing highly skilled and professional employees with a background in economics and law.

Sector for finances will be responsible for financial management. Other functions will also be managed by MoH employees in different departments (e.g. Public Relations etc.). In case that a need occurs for additional expertise in project implementation, experts will be either selected from MoH employees or contracted as external consultants. Consultancy services might be needed for the preparation of technical specification for medical equipment, vehicles, various consultancy services etc. and there will be some other consultancy costs associated with Project implementation.

World Bank will provide implementation support to overall Project (Component 1 and Component 2) through: close cooperation with PIUs, review of implementation performance and progress, implementation support missions, facilitating knowledge exchange, supervision and support on procurement process and financial management.

The World Bank team's social and environmental safeguards specialists will provide technical support and oversight throughout Project implementation and will take responsibility for initiating the timely preparation of required safeguards instruments. World Bank specialist will review all prepared ESF documents. Formal implementation support missions and field visits will ensure that the safeguards processes are in line with World Bank requirements. Capacity building activities will continue on an ongoing basis throughout project implementation.

World Bank will provide training on ESF and relevant standards to build capacity of the relevant PIU staff and guide them in the preparation, implementation, and supervision of all project environmental and social instruments.

Furthermore, MoPPCSA PIUs will provide training on implementation of environmental and social due diligence documents to all staff working with contractors and sub-contractors that are responsible for environment, and social issues.

Table 20. Capacity support (training)

		TIMEFRAME	RESPONSIBILE ENTITY/AUTHORITY
TRAINING OF PIU STAFF	Basic training to all MoPPCSA and MoH PIUs staff on basic ESF and related environmental and social issues; In-depth training to PIUs' environmental, social specialists, and communications and community outreach specialist, as well as to all other staff responsible for ensuring full compliance with the ESF and relevant instruments on: • OHS, environmental and social assessments, • ESMP preparation, • Labour influx, community health and safety, • Stakeholder engagement and grievance redress, • WHO Guidelines on Safe Management of Wastes from Health-Care Activities • National sanitary norms and regulations. • Codes of conduct • Monitoring and reporting, and • Other relevant topics.	Initial training within three months after the Project Effectiveness Date. Refresher trainings at least once a year or as needed, during project implementation	Project Implementation Units/PIUs (MoPPCSA and MoH) Funding from the Project budget
TRAINING FOR CONTRACTORS' STAFF	Training on implementation of environmental and social due diligence documents (e.g. OHS, environmental and social assessments, labour influx, community health and safety, stakeholder engagement, grievance redress, codes of conduct, etc.) to all staff working with contractors and sub-contractors that are responsible for environment, and social issues.	Prior to commencing works	MoPPCSA PIU Funding from the Project budget

9.2 Reporting arrangements

The MoPPCSA PIU (PIU-1) will be accountable for reporting to both the World Bank and the Project Steering Committee (PSC) on all project activities and progress.

A PSC will be chaired by the MoPPCSA State Secretary and comprise representatives from the Ministry of Finance (MoF), MoH, MoSE, Ministry of the Interior, the City of Zagreb, Zagreb County, and Krapina-Zagorje County. The main responsibility of the PSC will be to review the annual project work plan, facilitate adequate multisectoral and cross-agency coordination, monitor the progress of Project implementation, and make recommendations to improve the Project implementation. The committee will meet at a minimum every six months. During the first year of the Project, it may meet more frequently, and organize additional meetings as required.

For all sub-projects the environmental and social performance must be monitored in accordance with the legal agreement (including the ESCP checklist/CHMP).

Regular reports, as set out in the ESCP have to be provided to the Bank as a result of the monitoring. Such reports will provide an accurate and objective record of project implementation, including compliance with the ESCP and the requirements of the ESMP checklist/CHMP.

Monitoring and evaluation will be carried out by the PIU on the basis of the indicators and milestones developed in the Results Framework. Project monitoring will occur as a periodic function and will include carrying out process reviews/audits, reporting on outputs, and maintaining progressive records, as well as third-party monitoring and social auditing.

The PIU-1 will prepare consolidated semi-annual progress reports for WB. It will cover the following: (a) physical and financial progress achieved against agreed implementation and disbursement indicators; (b) issues and problem areas, including comments on actions to address identified problems; and (c) work programs and cost estimates for the coming year, including revised estimates for the former period. The reports will also include data on grievances and resolutions to allow for timely corrective action.

Detailed responsibilities during the project implementation and reporting obligations are given below in the Table 21. and Table 22.

Table 21. Responsibilities during project preparation/implementation

Responsible entity / authority	Material measures and actions
PIU-1 (MoCPPSA)	Responsible to ensure the implementation of the provisions of the ESMF by all parties, such as sub-project Borrowers and Contractors, including environmental and social monitoring, evaluation and reporting
PIU-2 (MoH)	Responsible to ensure the implementation of the provisions of the ESMF by all parties, within its competence, such as sub-project Borrowers and Contractors, including environmental and social monitoring, evaluation and reporting
The Environmental/Social Specialist (ES specialist)	- will be engaged by the PIU-1 and PIU-2, - preparing site-specific ESMP Checklist/CHMP, - ensuring that all sub - projects are carried out with due regard to appropriate health, safety, social, and environmental standards and practices, and in accordance with the Safeguards Instruments (ESMF, site specific ESMP Checklists/CHMP), - advising and guiding the contractors on the identification, assessment and mitigation of environmental and social impacts at the sub-project level and preparation of monitoring reports,

Responsible entity / authority	Material measures and actions
	- conducting environmental/social supervision by carrying out document reviews, site visits and interviews with Contractor, Construction Supervisors at least once a month, - holding regular meetings with the Contractor and representatives from PIU, and beneficiaries, on a monthly basis, - project workers trainings regarding: • Occupational Health and Safety • Codes of conduct • Unacceptability of Gender-Based • Violence, Sexual Exploitation and Abuse • and Sexual Harassment • Workplace Grievance Redress • Mechanism • Waste management precautions - responding on WB requirements and Head of PIU
PIU FGRM focal points	- responsible for managing the Feedback and Grievance Redress Mechanism (FGRM)

Table 22. Reporting obligations during project implementation

Author/addressed to	Report	Frequency
Contractors (Supervising engineer) to PIU-1	- Monitoring reports (ESMP Checklists/CHMPs implementation and OHS issues reports.)	- Monthly (including initial/inception report)
PIU-1 (MoCPPSA) – reporting to the WB **PIU-2 (MoH) – providing inputs to PIU-1 for their part**	- Environmental and Social assessment implementation report	- Quarterly unless differently required by WB (e.g. monthly upon request for activities with potentially substantial environmental and social risks)
The Environmental/Social Specialist (ES specialist)	- Brief description of issues identified, corrective action required or taken, timeline for corrective action agreed with contractor	- Upon completion of each site visit
FGRM focal points for PIU 1 and PIU 2	- Snapshot of status of complaints received/ resolved/ delayed (FGRM Report)	- Monthly
FGRM focal points for PIU 1 and PIU 2 and ES specialists	- Snapshots of stakeholder engagement activities carried, feedback provided/incorporated or rationale for not including feedback (SEP Report)	- Monthly
PIU FGRM focal points (part of the reporting to the World Bank) **PIU -2-(MoH) preparing for their part**	- Summaries on complaints, feedback, queries, suggestions and compliments, together with the status of implementation of associated corrective / preventative actions, will be collated and referred to the PIU manager.	- Semi-annual
The PIU-1 to World Bank	- Progress reports for WB on: physical and financial progress achieved against agreed implementation and disbursement indicators; issues and problem areas, including comments on actions to address identified	- Semi-annual

Author/addressed to	Report	Frequency
	problems; work programs and cost estimates for the coming year, including revised estimates for the former period; data on grievances and resolutions to allow for timely corrective action.	
PIU 1 and PIU 2 to World Bank	– Environment and Social Incident Report (ESIRT) (Incident/Accident Report for WB to promptly notify of any incident or accident related to or having an impact on the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, including - WB has to notify the Bank within 48 hours after learning of the incident or accident	- Immediate

10 FEEDBACK AND GRIEVANCE REDRESS MECHANISM

The main objective of the Feedback and Grievance Redress Mechanism (FGRM) is to allow stakeholders to submit complaints, feedback, queries, suggestions, or compliments related to the overall management and implementation of the project. The FGRM is intended to address issues and complaints from stakeholders in an efficient, timely, and cost-effective manner. Specifically, it provides a transparent and credible process for fair, effective and lasting outcomes. It also builds trust and cooperation as an integral component of broader community consultation that facilitates corrective actions.

Project Implementation Unit of MoH (PIU-2) will assign a staff member under the direct responsibility of the Head of the PIU to be responsible for managing the FGRM.

The following channels will be available to stakeholders who would like to submit complaints, feedback, queries, suggestions, or compliments:

Table 23. Channels for submitting complaints, feedback, queries, suggestions, or compliments

Hotline established by the Civil Protection Directorate for all coronavirus related issues: 113
In-person complaints to facility administrators / building managers
Email addresses, postal addresses and phone numbers provided by the Ministry of Health for citizen inquiries on its webpage under the "contact" section
Phone lines of the Croatian Institute of Public Health (open every working day from 8am to 10pm and on Saturdays and Sundays from 8am to 2pm): 091 468 30 32 or 099 468 30 01
Other coronavirus-related hotlines (e.g. Croatian Red Cross hotline[153])
Social media channels such as the official government Facebook page on the coronavirus@koronavirus.sluzbeni and social media outlets linked to the koronavirus.hr website
Phone lines of public health institutions and laboratories targeted by the project[154]

Any project-related feedback or grievance received via the channels listed in Table 23 should be forwarded within 24 hours to the PIU FGRM focal point, who will register it in a dedicated Excel database and log the following information about it:

Allocated tracking number of the case; Date received; Name of feedback provider/complainant; feedback provider/complainant contact details; Nature of the feedback provided/complaint; Category of feedback (according to a typology to be developed in the updated SEP[155]); Information about the feedback provider/complainant along categories to be developed in the updated SEP (e.g. gender; age…); Action taken and response provided to the feedback provider/complainant; Date response was provided; Feedback provider/complainant satisfaction with response provided; Current status of the case.

[153] The Croatian Red Cross opened a free hotline for psychosocial support +385 800 1188 for all citizens who are self-isolated or quarantined, and anyone who is concerned about the situation with the coronavirus epidemic and who needs psychosocial assistance.

[154] See here for the list of phone numbers: https://koronavirus.hr/important-phone-numbers/152

[155] A possible typology of complaints could for example include: grievances linked to building eligibility; choice of technical design; quality of works; waste/debris disposal by the contractor

Upon receipt of a project-related feedback or grievance, the PIU FGRM focal point will acknowledge receipt of the feedback/grievance within 24 hours to the person who submitted it, outlining the way forward and how soon the feedback provider/complainant can expect to hear back from the project implementers.

In the case of complaints, the PIU FGRM focal point will then investigate the submission by reaching out to relevant actors as appropriate.

Following the investigation, the PIU FGRM focal point will propose a resolution to the complainant in writing within a maximum timeframe of 10 days from the moment the complaint was acknowledged. If an issue is still pending by the end of 10 days, the complainant will be provided with an update regarding the status of the complaint and the estimated time by which a proposed resolution will be provided. All grievances should be resolved within a maximum of 21 days of receipt. To enhance accountability, these timelines will be disseminated.

In case a complainant is dissatisfied with the proposed resolution, an appeal may be lodged within 15 days following the receipt of the decision with the respective Ministry, who shall decide on the lodged appeal.

As a final level of appeal, an administrative dispute may be instituted before the Administrative Court of the Republic of Croatia. If the amicable settlement of any major dispute in implementation fails for any reason, complainants may still seek a judicial settlement before the competent court.

Semi-annual summaries on complaints, feedback, queries, suggestions and compliments, together with the status of implementation of associated corrective/preventative actions, will be collated by the designated PIU FGRM focal points, and referred to the PIU manager. The summaries will allow to assess the volume and nature of feedback received and enhance the project's ability to address it in a timely and effective manner. These reports will also be included in the reporting to the World Bank.
The FGRM will be advertised widely, including through on-site information boards and posters at construction sites and in facilities targeted under the project, as well as on the websites of the MoH involved in the project.

Information on public engagement activities undertaken by the Project will be conveyed to the stakeholders in two possible ways:

- Publication of a standalone annual summary of the project's interaction with stakeholders, to be published on the website of the MoH.
- Monitoring of stakeholder engagement indicators on a regular basis. In addition to the Results Framework PDO-level Indicator "Communities of intervened hospitals and schools included and informed" and intermediate outcome indicator "Percentage of grievances responded to in the stipulated time", additional indicators, which will be determined in the updated SEP, may include:
    - number of consultations, including by using telecommunications carried out within a reporting period (e.g. monthly, quarterly, or annually);
    - number of public grievances received within a reporting period (e.g. monthly, quarterly, or annually);
    - number of press materials published/broadcasted in the local, regional, and national media.

To the extent possible, public outreach and citizen engagement activities for this Project will rely upon existing mechanisms and resources: public information boards with contact information publicly

displayed in accessible locations around construction premises, online and print media (newspaper, magazines), posters and brochures, local and national media programs (radio and TV), newspapers, social media, websites of MoPPCA and MoH , emails, SMS, etc.

In relation to the potential Environmental and Social impacts generated within each of the sub-project, the PIU team will closely work with the communications specialists, in order to facilitate community meetings, campaigns and surveys on issues specific to these groups, communicating information in a form and language that can be easily understood. It will be also identified ways to link public awareness and information efforts especially for vulnerable groups (e.g. people with disabilities, children / young people) or with gender networks and associations to help disseminate information and awareness.

World bank grievance redress service

The World Bank's Grievance Redress Service (GRS) is an avenue for people and communities to submit complaints directly to the World Bank if they believe a Bank-funded project has or is likely to adversely affect them. This Service ensures that complaints received are promptly reviewed in order to address project-related concerns.
Also, the project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures.

Information on how to submit complaints to the World Bank's corporate GRS, is available via http://www.worldbank.org/GRS . Information on how to submit complaints to the World Bank Inspection Panel, is available via www.inspectionpanel.org .

11 ANNEXES

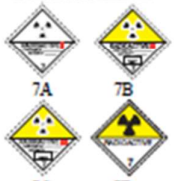
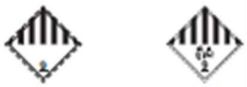
ANNEX I – INSTRUCTION IN WRITING ACCORDING TO ADR

Actions in the event of an accident or emergency

In the event of an accident or emergency that may occur or arise during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:

- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke, use electronic cigarettes or similar devices or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small / initial fires in tyres, brakes and engine compartments;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewage system and to contain spillages;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	**Hazard characteristics**	**Additional guidance**
(1)	**(2)**	**(3)**
Explosive substances and articles  1 1.5 1.6	May have a range of properties and effects such as mass detonation; projection of fragments; intense fire/heat flux; formation of bright light, loud noise or smoke. Sensitive to shocks and/or impacts and/or heat.	Take cover but stay away from windows.
Explosive substances and articles  1.4	Slight risk of explosion and fire.	Take cover.
Flammable gases  2.1	Risk of fire. Risk of explosion. May be under pressure. Risk of asphyxiation. May cause burns and/or frostbite. Containments may explode when heated.	Take cover. Keep out of low areas.
Non-flammable, non-toxic gases  2.2	Risk of asphyxiation. May be under pressure. May cause frostbite. Containments may explode when heated.	Take cover. Keep out of low areas.
Toxic gases  2.3	Risk of intoxication. May be under pressure. May cause burns and/or frostbite. Containments may explode when heated.	Use emergency escape mask. Take cover. Keep out of low areas.
Flammable liquids  3	Risk of fire. Risk of explosion. Containments may explode when heated.	Take cover. Keep out of low areas.
Flammable solids, self-reactive substances, polymerizing substances and solid desensitized explosives  4.1	Risk of fire. Flammable or combustible, may be ignited by heat, sparks or flames. May contain self-reactive substances that are liable to exothermic decomposition in the case of heat supply, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours or self-ignition. Containments may explode when heated. Risk of explosion of desensitized explosives after loss of desensitizer.	
Substances liable to spontaneous combustion  4.2	Risk of fire by spontaneous combustion if packages are damaged or contents are spilled. May react vigorously with water	
Substances which, in contact with water, emit flammable gases  4.3	Risk of fire and explosion in contact with water.	Spilled substances should be kept dry by covering the spillages.

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	**Hazard characteristics**	**Additional guidance**
(1)	(2)	(3)
Oxidizing substances  5.1	Risk of vigorous reaction, ignition and explosion in contact with combustible or flammable substances.	Avoid mixing with flammable or combustible substances (e.g. sawdust).
Organic peroxides  5.2	Risk of exothermic decomposition at elevated temperatures, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours or self-ignition.	Avoid mixing with flammable or combustible substances (e.g. sawdust).
Toxic substances  6.1	Risk of intoxication by inhalation, skin contact or ingestion. Risk to the aquatic environment or the sewerage system.	Use emergency escape mask.
Infectious substances  6.2	Risk of infection. May cause serious disease in humans or animals. Risk to the aquatic environment or the sewerage system.	
Radioactive material  7A 7B 7C 7D	Risk of intake and external radiation.	Limit time of exposure.
Fissile material  7E	Risk of nuclear chain reaction.	
Corrosive substances  8	Risk of burns by corrosion. May react vigorously with each other, with water and with other substances. Spilled substance may evolve corrosive vapours. Risk to the aquatic environment or the sewerage system.	
Miscellaneous dangerous substances and articles  9 9A	Risk of burns. Risk of fire. Risk of explosion. Risk to the aquatic environment or the sewerage system.	

NOTE 1: *For dangerous goods with multiple risks and for mixed loads, each applicable entry shall be observed.*
NOTE 2: *Additional guidance shown in column (3) of the table may be adapted to reflect the classes of dangerous goods to be carried and their means of transport.*

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods, indicated by marks, and on actions subject to prevailing circumstances		
Mark	Hazard characteristics	Additional guidance
(1)	(2)	(3)
 Environmentally hazardous substances	Risk to the aquatic environment or the sewerage system	
 Elevated temperature substances	Risk of burns by heat.	Avoid contact with hot parts of the transport unit and the spilled substance.

Equipment for personal and general protection
to carry out general actions and hazard specific emergency actions
to be carried on board the transport unit in accordance with section 8.1.5 of ADR

The following equipment shall be carried on board the transport unit:

- for each vehicle, a wheel chock of a size suited to the maximum mass of the vehicle and to the diameter of the wheel;
- two self-standing warning signs;
- eye rinsing liquid[a]; and

for each member of the vehicle crew

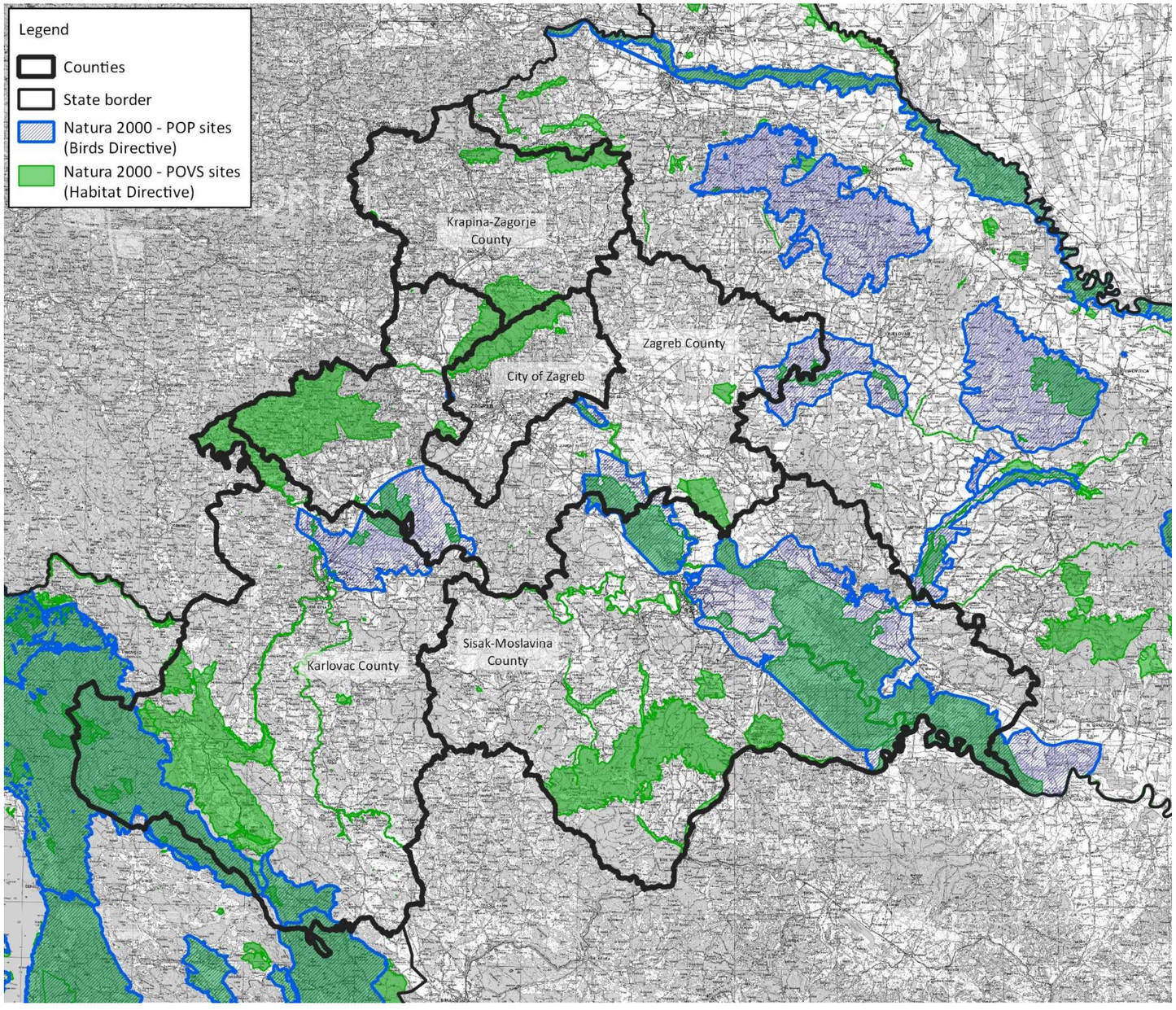
- a warning vest;
- portable lighting apparatus;
- a pair of protective gloves; and
- eye protection.

Additional equipment required for certain classes:

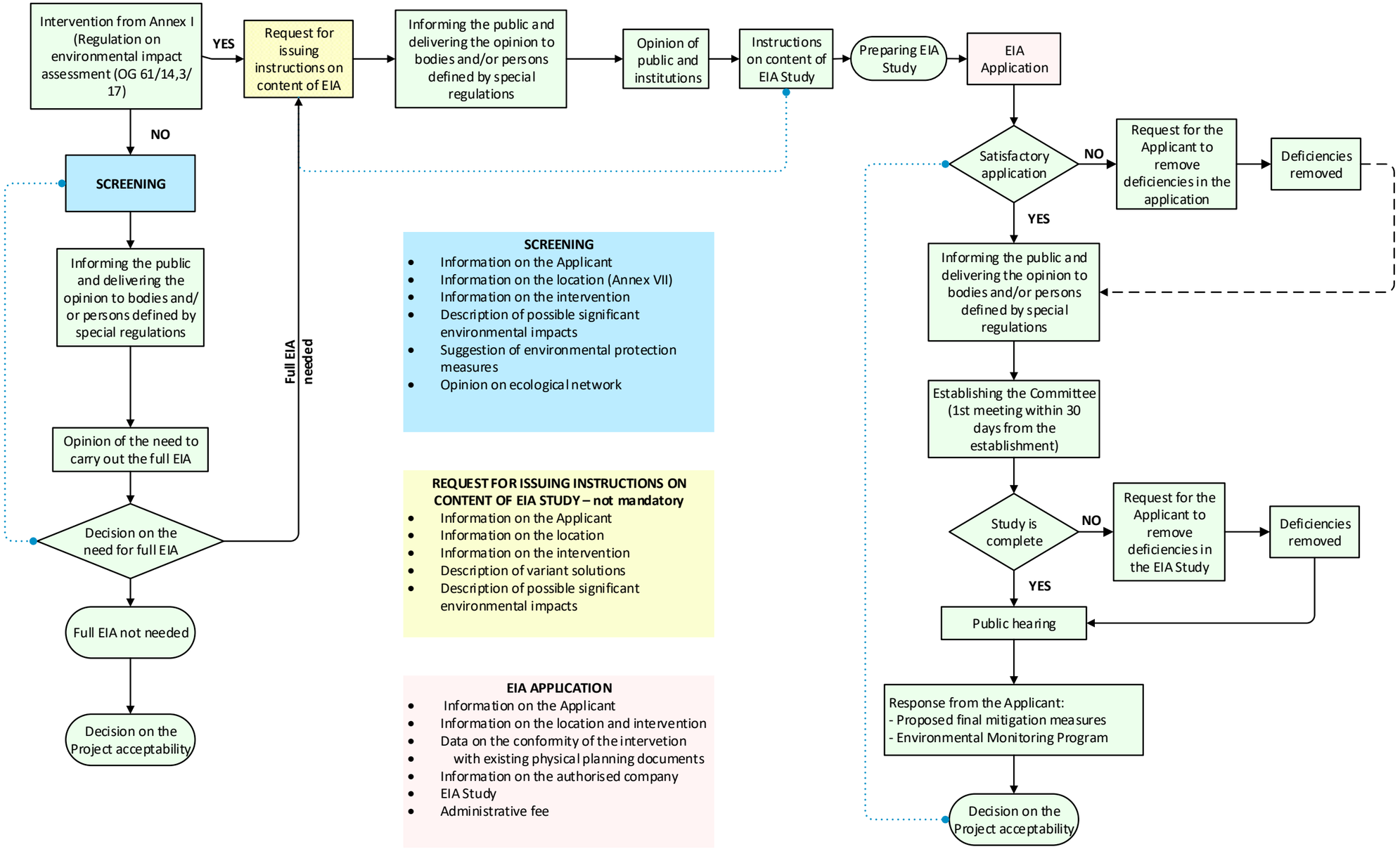
- an emergency escape mask for each member of the vehicle crew shall be carried on board the transport unit for danger label numbers 2.3 or 6.1;
- a shovel[b];
- a drain seal[b];
- a collecting container[b].

[a] *Not required for danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3.*
[b] *Only required for solids and liquids with danger label numbers 3, 4.1, 4.3, 8 or 9.*

ANNEX II – ECOLOGICAL NETWORK FOR COMPONENT 2 (NATURA 2000)



ANNEX IIII – THE NATIONAL EIA PROCEDURE



ANNEX IV - NATURA 2000 NETWORK AND PROTECTED PARTS OF NATURE – LEGAL PROTECTION PROCEDURE ACCORDING TO CROATIAN LEGISLATION

Ecological Network Impact Assessment (ENIA)

The most important mechanism for the protection of ecological network of the Republic of Croatia (NATURA 2000 network) is the Ecological Network Impact Assessment (ENIA).

Through the so-called the previous assessment of the intervention/project is 'scanned' and it is assessed whether it is possible to exclude its negative impact on the ecological network. If not, reference is made to the main assessment, which looks in more detail at the possible negative impacts, tries to find alternative solutions to achieve the goal of the intervention/ project, as well as measures that can be used to mitigate the impacts.

Ecological Network Impact Assessment (ENIA) steps:

- **Screening**
- **Main assessment**
- **Establishment of overriding public interest and approval of the project with compensatory measures**

ENIA is carried out before obtaining a location permit or other approval for the implementation of the project.

ENIA procedures

For interventions/projects for which screening procedure is carried out as part of environmental impact assessment (EIA), in line with the Regulation on environmental impact assessment (Annex II and III of the Regulation), screening of impacts on ecological network is done as a part of screening within EIA.

For interventions for which EIA is obligatory (Annex I of the Regulation), and preparation of environmental study is necessary, screening of impacts on ecological network is carried out before initiating the EIA procedure and preparation of EIA study.

For projects/interventions for which EIA must be conducted, main assessment is carried out as a part of EIA procedure.

For projects/interventions for which it is not necessary to carry out the EIA screening and EIA procedure (not listed in Annex I, II, III of the Regulation) – ENIA is a separate procedure.

Competent authority

MoESD is competent authority for ENIA screening and main assessment for projects/ interventions:

- For which the MoESD conducts screening for EIA and EIA procedure (Annex II and III of the Regulation on environmental impact assessment),
- Whose scope is located in the area of two or more counties/City of Zagreb

Administrative body in the county/City of Zagreb is competent authority for ENIA screening and main assessment for projects/interventions:

- For which the administrative body in the county/City of Zagreb conducts screening for EIA and EIA procedure (Annex III of the Regulation, except when the intervention/project is planned on the area of two or more counties/City of Zagreb)
- Which can have a significant negative impact on the ecological network protection objectives and integrity of the ecological network area

For projects/interventions for which it is not necessary to carry out the EIA screening and EIA procedure (not listed in Annex I, II, III of the Regulation) the request for ENIA screening is submitted to the administrative body in the county/City of Zagreb, which in the evaluation process obtains an opinion from the MoESD on the possible negative impact on the ecological network. In case possible negative impacts on the ecological network are identified, a main assessment should be carried out. The MoESD conducts the procedure of the main assessment or the procedure of determining the prevailing interest with compensatory measures for intervention/project for which it conducts EIA procedure, and the competent authority in the county/City of Zagreb for those procedures for which is the holder of the EIA.

Protected parts of nature

Protected parts of nature:

1. **Nine categories of protected areas :**
   - Strict reserve
   - National park
   - Special reserve
   - Nature park
   - Regional park
   - Nature monument
   - Significant landscape
   - Park-forest
   - Park architecture monument

2. **Protected species:**
   - Strictly protected wild species

3. **Protected minerals and fossils**

Protected areas are divided in classes:

- ***Protected areas of national significance:*** strict reserve, national park, special reserve and nature park

- ***Protected areas of local significance:*** regional park, nature monument, significant landscape, forest-park and park architecture monument.

Protected parts of nature are managed by public institutions established by the Government of the Republic of Croatia (for national parks and nature parks) and counties.

For projects/interventions in the protected parts of nature for which it is necessary to obtain a building permit, it is necessary to issue certificate by:

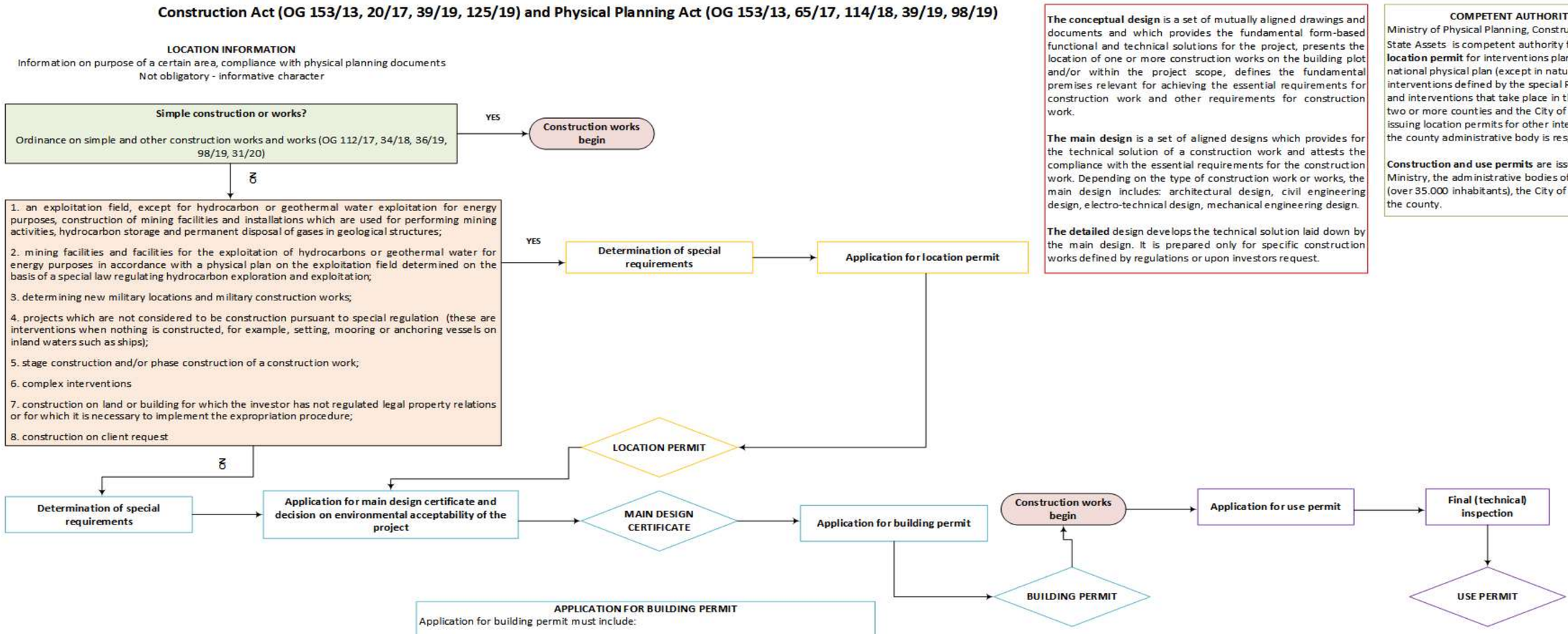
- MoESD for projects/ interventions in the area of a special reserve, national park or nature park managed by a public institution competent for national park or nature park
- Public institution for national parks or nature parks for projects/ interventions carried out in the area of a national park or nature park, for which the public institution is not competent
- Administrative body for projects/ interventions carried out in the area of a regional park, nature monument, significant landscape, park-forest and park architecture monuments.

This certificate does not need to be obtained for projects/ interventions that have been the subject of a ENIA main assessment.

For projects/interventions in the protected parts of nature for which it is not necessary to obtain a building permit, it is necessary to issue permission by:

- MoESD for projects/interventions and research in the area of strict reserve, national park, special reserve and nature park,
- Administrative body for projects/interventions and research in the area of nature monument, regional park, significant landscape, park-forest and park architecture monument.

ANNEX V - PROCEDURE OF ISSUING LOCATION, BUILDING AND USE PERMIT ACCORDING TO CONSTRUCTION ACT (OG 153/13, 20/17, 39/19,125/19) AND THE PHYSICAL PLANNING ACT (OG 153/13, 65/17, 114/18, 39/19, 98/19)



The conceptual design is a set of mutually aligned drawings and documents and which provides the fundamental form-based functional and technical solutions for the project, presents the location of one or more construction works on the building plot and/or within the project scope, defines the fundamental premises relevant for achieving the essential requirements for construction work and other requirements for construction work.

The main design is a set of aligned designs which provides for the technical solution of a construction work and attests the compliance with the essential requirements for the construction work. Depending on the type of construction work or works, the main design includes: architectural design, civil engineering design, electro-technical design, mechanical engineering design.

The detailed design develops the technical solution laid down by the main design. It is prepared only for specific construction works defined by regulations or upon investors request.

COMPETENT AUTHORITY

Ministry of Physical Planning, Construction and State Assets is competent authority for issuing: **location permit** for interventions planned by the national physical plan (except in nature park), interventions defined by the special Regulation and interventions that take place in the area of two or more counties and the City of Zagreb. For issuing location permits for other interventions, the county administrative body is responsible.

Construction and use permits are issued by the Ministry, the administrative bodies of large cities (over 35.000 inhabitants), the City of Zagreb and the county.

APPLICATION FOR LOCATION PERMIT

Application for location permit must include:

- conceptual design in electronic format,
- print version of conceptual design certified by the designer,
- statement of the designer that the conceptual design was developed in accordance with the spatial plan (part of the conceptual design),
- geodetic project (part of the conceptual design in the case of forming the building plot),
- special requirements and/or evidence that the applicant has submitted the request for determining special requirements,
- decision on the environmental acceptability of the project if it is a project which requires an environmental impact assessment and/or appropriate assessment of the impact of a project on the ecological network, pursuant to special regulations,
- decision on environmental screening process if it contains environmental protection measures and / or environmental monitoring program,
- certificate on validation of the conceptual design if the project was developed according to foreign regulations

APPLICATION FOR BUILDING PERMIT

Application for building permit must include:

- location permit (if project is subject to the issuing location permit),
- allotment study (if project is subject to issuing location permit)
- main design in electronic format,
- print version of main design certified by the designer or main designer, in case that several of them participate in its preparation,
- energy performance certificate of the building in electronic form, signed with an electronic signature
- print version of energy performance certificate of the building certified by the designers and the main designer, in case that several of them participate in its preparation
- written report on the performed main design audit, if the audit is prescribed,
- certificate on the main design validation, if the design has been developed according to foreign regulations,
- evidence of legal interest for the issuance of a building permit,
- certificates of public law bodies that the main design was developed in accordance with special requirement respectively special requirements defined by location permit,
- certificate that the main design was developed in accordance with the decision on the environmental acceptability of the project,
- evidence that applicant may be the investor (concession, approval or other official act prescribed by a special regulation) in the case of a construction work for which a special act prescribes who the investor may be

APPLICATION FOR USE PERMIT

Application for use permit must include:

- photocopy of the building permit or a copy of the main design for the construction work that may be built or works that may be carried out on the basis of the main design,
- information regarding the parties involved in the building,
- written statement of the contractor on works completed and the requirements for the maintenance of the construction work,
- final report of the supervising engineer on the completion of the construction work,
- statement of the authorised geodetic engineer that the construction work was built in accordance with the surveying design, if the construction work is subject to developing the surveying design,
- geodetic survey of as-built situation or surveying study for entering the construction work in the cadastre or for change of information on buildings and other construction works, if the construction work is not subject to developing the surveying design, but it is to be entered in the cadastre,
- evidence that in cadastre building plot is formed (for construction for which by allotment study building plot is formed),
- energy certificate of the building, if the application is submitted for a building that must comply with the energy performance requirements.

ANNEX VII - PROCEDURES FOR ISSUING LOCATION, BUILDING AND USE PERMITS (REGULAR PROCEDURE – NO NATURAL DISASTER PROCLAIMED)

LOCATION INFORMATION

Informal act which contains information on: purpose of a certain area, compliance with physical planning documents, is it an area for which special conditions are defined (i.e. whether it is listed in the Cultural Heritage Register). Issued, within 8 days of application submission by the administrative authority in whose area the land is situated.

Not obligatory - informative character

INTERVENTIONS FOR WHICH LOCATION/BUILDING PERMIT IS NOT REQUIRED

1. For simple and other construction works and works defined by Ordinance on simple and other construction works and works (OG 112/17, 34/18, 36/19, 98/19,31/20) it is not necessary to issue location/building permit and construction works may begin:

a) without location/building permit and without main design. Without location/building permit and main design, works such as maintenance of the existing building, emergency repairs etc. can be performed.

b) without location / building permit, in accordance with the main design / standard design: i.e. separately object being built in the existing building parcel for which there is a building permit for already existing construction. Also, apart from construction based on the construction project, various works can be carried out e.g. adding, restoring or replacing building parts such as transparent facade elements, thermal insulation of floors, walls, ceilings, flat, sloping and curved roofs.

2. In the event of construction damage when people and assets are directly in danger, without building permit construction can be restored to the original condition in line with the act according to which it was built or the by project of the existing condition

INTERVENTIONS FOR WHICH LOCATION PERMIT IS REQUIRED

Location permit must be issued for:

1. an exploitation field, except for hydrocarbon or geothermal water exploitation for energy purposes, construction of mining facilities and installations which are used for performing mining activities, hydrocarbon storage and permanent disposal of gases in geological structures;

2. mining facilities and facilities for the exploitation of hydrocarbons or geothermal water for energy purposes in accordance with a physical plan on the exploitation field determined on the basis of a special law regulating hydrocarbon exploration and exploitation;

3. determining new military locations and military construction works;

4. projects which are not considered to be construction pursuant to special regulation[156] (these are interventions when nothing is constructed, for example, setting, mooring or anchoring vessels on inland waters such as ships);

5. stage construction and/or phase construction of a construction work;

6. complex interventions

[156] Ordinance on operations in an area which are not considered construction, for which the location permit is issued (OG 105/2017)

7. construction on land or building for which the investor has not regulated legal property relations or for which it is necessary to implement the expropriation procedure;

8. construction on client request

a) Determination of special requirements

Special requirements have to be determined prior to initiating the procedure for issuing the location permit at the request of the designer or the investor, or during that procedure upon request of the Ministry. Exceptionally, water regulation conditions and special conditions for the protection of cultural heritage are obtained prior location permit at the request of the investor. For the purpose of obtaining special requirements that were not obtained prior to initiation of the procedure for issuing the location permit, the Ministry invites body and / or person defined by special regulations to review conceptual design. The applicant and the designer are present during the conceptual design overview.

List of public bodies responsible for the determination of special requirements are available at the web address:

https://dozvola.mgipu.hr/javnopravna-tijela

b) Application for issuing location permit must include:

- conceptual design in electronic format,
- print version of conceptual design certified by the designer,
- statement of the designer that the conceptual design was developed in accordance with the spatial plan (part of the conceptual design)
- geodetic project (part of the conceptual design in the case of forming the building plot)
- special requirements and/or evidence that the applicant has submitted the request for determining special requirements,
- decision on the environmental acceptability of the project if it is a project which requires an environmental impact assessment and/or appropriate assessment of the impact of a project on the ecological network, pursuant to special regulations,
- decision on environmental screening process if it contains environmental protection measures and / or environmental monitoring program,
- certificate on validation of the conceptual design if the project was developed according to foreign regulations

Validity of the location permit

The location permit shall cease to be valid if within two years from the day the location permit became final and effective:

- the application for issuing the concession was not submitted,
- the application for adoption of the decision on expropriation was not submitted,
- the proposal for adopting the decision on servitudes or the right to construction on land owned by the Republic of Croatia was not submitted,
- the application for issuance of the building permit was not submitted, or the implementation of the project for which the official act for construction is not issued, has not started.

If two building permits are issued for construction activity for which a single location permit has been issued, the two-year term ends by the issue of the first building permit. Validity of the location permit shall be extended once upon the request of the applicant or investor for two additional years, provided that the requirements have not changed which were determined in accordance with the provisions of legislation and other requirements in accordance with which the location permit was issued.

Public participation

Prior to issuing a location permit, the competent authority is obliged to provide to interested party insight to project documentation: by a public invitation displayed on the bulletin board of the competent authority or in person, depending on with how many properties project directly borders, on its web sites and on the property for which location permit is issued. The public invitation is deemed delivered after eight days from displaying the invitation on the bulletin board of the administrative body.

BUILDING PERMIT

a) Determination of special requirements

For projects/interventions for which location permit is issued special requirements determined during that procedure are valid for building permitting procedure. For other projects/interventions determination of special requirements must be carried out during building permitting procedure.

b) Main design certificate

Main design certificate must be issued before initiating building permitting procedure. This certificate confirms that main design is prepared in line with special requirements defined by the location permit respectively with special requirements determined by competent public body.

c) C***ertificate that the main design was developed in accordance with the decision on the environmental acceptability of the project***

d) Application for issuing building permit must include:

- location permit (if project is subject to the issuing location permit),
- allotment study (if project is subject to the issuing location permit)
- main design in electronic format,
- print version of main design certified by the designer or main designer, in case that several of them participate in its preparation
- energy performance certificate of the building in electronic form, signed with an electronic signature
- print version of energy performance certificate of the building certified by the designers and the main designer, in case that several of them participate in its preparation
- written report on the performed main design audit, if the audit is prescribed,,
- certificate on the main design validation, if the design has been developed according to foreign regulations,
- evidence of legal interest for the issuance of a building permit,
- certificates of public law bodies that the main design was developed in accordance with special requirement respectively special requirements defined by location permit,
- certificate that the main design was developed in accordance with the decision on the environmental acceptability of the project,
- evidence that applicant may be the investor (concession, approval or other official act prescribed by a special regulation) in the case of a construction work for which a special act prescribes who the investor may be,

Validity of the building permit

- A building permit shall cease to be valid if, within three years from the date it became, final and effective, the investor fails to commence construction
- Validity can be extended once for three year period

Public participation

See public participation for interventions for which location permit is required

USE PERMIT

Application for issuing use permit must include:

- photocopy of the building permit or a copy of the main design for the construction work that may be built or works that may be carried out on the basis of the main design,
- information regarding the parties involved in the building,
- written statement of the contractor on works completed and the requirements for the maintenance of the construction work,
- final report of the supervising engineer on the completion of the construction work,
- statement of the authorized geodetic engineer that the construction work was built in accordance with the surveying design, if the construction work is subject to developing the surveying design,
- geodetic survey of as-built situation or surveying study for entering the construction work in the cadastre or for change of information on buildings and other construction works, if the construction work is not subject to developing the surveying design, but it is to be entered in the cadastre,
- evidence that in cadastre building plot is formed (for construction for which by allotment study building plot is formed),
- energy certificate of the building, if the application is submitted for a building that must comply with the energy performance requirements.

After final inspection during which and no faults were identified or were removed use permit is issued.

Other variants of use permit are:

a) temporary use permit - for the construction work when no final results concerning the assessment of compliance or the attestation of quality of certain parts of the construction work are available, but the final inspection established that the construction work has been built in conformity with the building permit

b) use permit for a part of the construction work - may be issued before the completion of the whole construction work for a part of the construction work (must be provided in the main design)

REMOVAL OF CONSTRUCTION WORKS

The removal of the construction work or any part thereof may be carried out on the basis of the removal design following submission of notification to the building control authority in the county.

Exceptionally removal design is not required for constructions defined by the Ordinance on simple and other construction works and works (OG 112/17, 34/18, 36/19) or if the removal of a construction work is carried out by the building inspection according to the decision on the removal of that construction work.

In the notification of the commencement of works on the removal of the construction work, the owner must indicate:

- the designer of the removal design,
- designations of that design,
- the contractor and the supervising engineer,
- authorisation of the Ministry of Culture (when the construction work intended for removal is registered in the Register of Cultural Heritage)

ANNEX VIII - ANNEX III OF THE TECHNICAL REGULATION FOR BUILDING STRUCTURES (OG 17/17,75/20)

LEVELS OF RECONSTRUCTION OF EARTHQUAKE BUILDING STRUCTURES IN RELATION TO MECHANICAL RESISTANCE AND STABILITY

III.1. The area of the City of Zagreb, Krapina-Zagorje County, Zagreb County, Sisak-Moslavina County, Karlovac County

Recovery level	Claim	Documentation	Interventions and works	Categories of buildings
Level 1: Repair of non-structural elements	Bring non-structural elements to the level of local load-bearing capacity and stability, by repairing or replacing a damaged non-structural element. For example, rebuilt damaged chimneys and loft walls should have local load-bearing capacity and stability in relation to seismic performance. Eliminate immediate hazards caused by non-structural elements of the building and / or secure the building from further degradation from natural influences (rain, snow, wind). The seismic resistance of the building as a whole, is not considered by repairing within Level 1.	The works are performed according to this Annex, ie without a construction project - project of the building structure. For the implementation of the repair of non-structural elements of the building, it is necessary to prepare a study on the repairing of non-structural elements. The (study) contains graphic attachments, necessary calculations, sketches of details of technical solutions, photographs, technical and other descriptions.	Repair of non-structural elements includes the execution of construction and construction-craft works (if applicable): - repair or removal and re-construction/construction of damaged chimneys, roof cornices and parapets, balcony fence walls¸ - repair or removal and re-construction/construction of parts of gable walls in the loft / attic - partial or complete remodelling of non-load-bearing (partition) walls with material of the same or smaller mass - roof repair (local replacement of horns, battens, principal rafters) - replacement of cover parts (roof tiles, ridge tiles) - repair of cracks in non-structural elements - repair or replacement of parts of roof sheet metals, roof penetrations, repair of roof insulation, etc. - other similar measures.	- all buildings
Level 2: Repair of the construction	Repair of earthquake-damaged building structure with reinforcements that achieve mechanical resistance and stability of the building to seismic performance for a comparative probability of exceeding 10% in 10 years (return period of 95 years) for the limit state of significant damage.	A construction project should be prepared - a project for the repair of the building structure, whereby the calculation of seismic performance is carried out for a comparative probability of exceeding 10% in 10 years (return period of 95 years) for the limit state of significant damage.	Repair of the building structure includes the possibility of carrying out the following construction works: - repair of larger cracks in load-bearing walls - more comprehensive roof repairs - stair repair - repair and connection of walls	- residential buildings, commercial and residential-commercial buildings and public buildings with medium consequences of collapse, that were slightly damaged in the earthquake

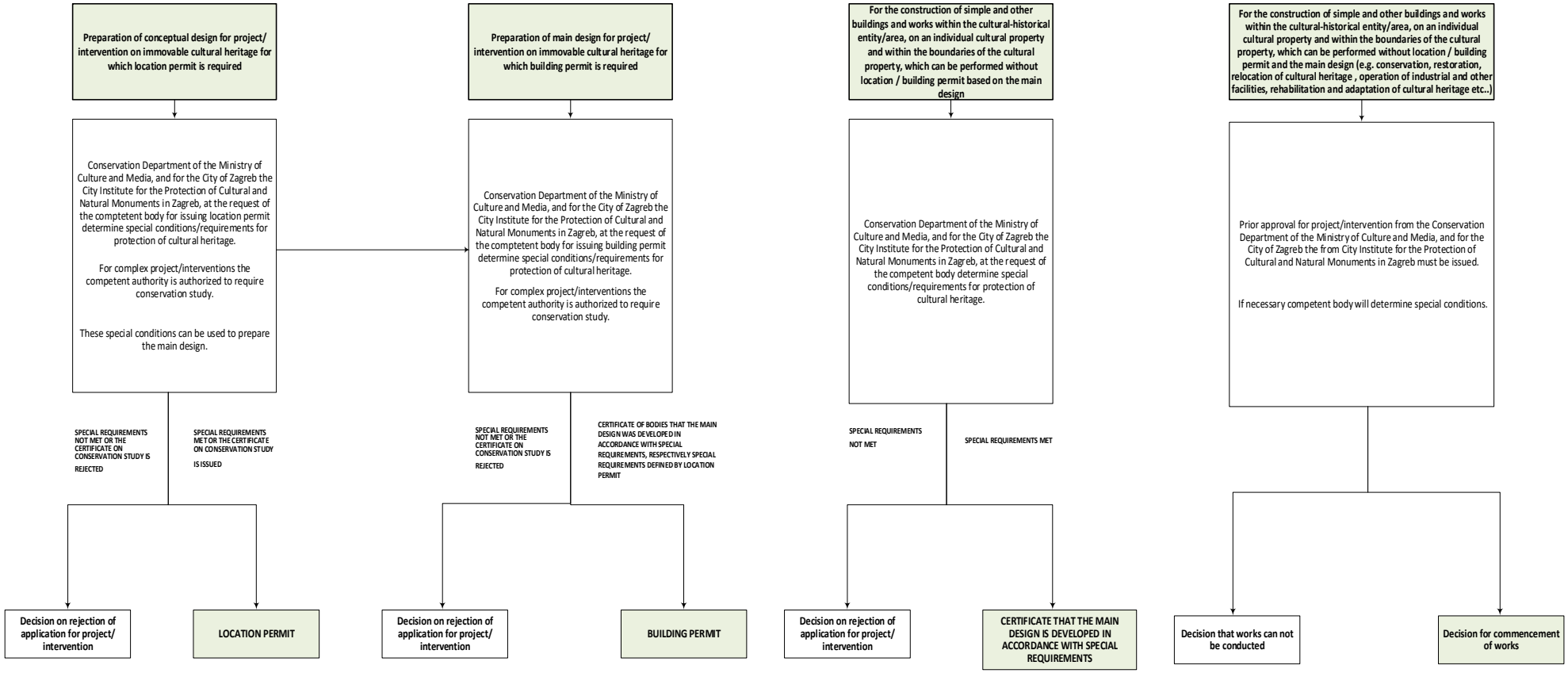
Recovery level	Claim	Documentation	Interventions and works	Categories of buildings
	For buildings for which the achievement of mechanical resistance and stability of the building to seismic performance for a comparative probability of exceeding 10% in 10 years would disturbed their properties, protected by a special law, or the investment would be disproportionate to its value, repair of earthquake damaged building structure is allowed with the reinforcement and application of methods that do not significantly interfere with the technical properties of the building being renovated, and which (except locally) do not significantly change the overall rigidity of the structure and the mass of the building. Exceptions are structural systems of buildings where the seismic resistance in one direction is significantly lower than in the other, so the local addition of new load-bearing elements is allowed. Repair of building construction includes: - connecting individual structural elements to make building behave globally as a whole in the next earthquake and to delay the occurrence of local failure mechanisms and / or out-of-plane failure mechanisms, - reinforcement of critical elements and elements damaged in the earthquake.	Within assessment of the seismic resistance of the building, which is an integral part of the construction project, the ratio of the calculated seismic resistance of the structure and seismic resistance is expressed according to the series HRN EN 1998 and the corresponding national annexes. To carry out the repair of an earthquake-damaged building structure, it is necessary to make: - study on the assessment of the existing condition of the building structure, with the implementation of a detailed inspection (visual inspection, collection of existing documentation and, if necessary, investigative works) - construction project - a project for the repair of the building structure that includes proof of mechanical resistance and stability which includes solutions for the implementation of the planned reinforcements with the development of details and technical elaboration of the solution - project controls in accordance with a special regulation which stipulates project control - development of the project by other specialists (if necessary).	- repair of structures between floors (beams, bearings, flooring joints, etc.) and anchoring to the walls - measures for stabilization of unsupported walls - replacement of chimneys with the replacement of the atmospheric heating device with a condensing one. The implementation of these interventions includes the execution of the following construction works: - local connection of load-bearing walls - execution of reinforced plaster on individual walls - installation of anchors for interconnection of floor structures and load-bearing walls and partitions with load-bearing walls - reinforcement of floor beams and board formwork with the aim of achieving a partially rigid diaphragm and acceptance of that diaphragm for the perimeter walls - local bias input - local reinforcement of walls with FRP (Fiber Reinforced Polymer), fiberglass nets, etc. - local remodelling of load-bearing walls, partial or complete remodelling of non-load-bearing (partition) walls with material of the same or less specific weight - execution of horizontal AB beams on roof parapets, cantilever walls and gable walls - local addition of new load-bearing elements if a significant lack of walls in one direction is found - for buildings for which an exception is allowed, other works which contribute to the increase of seismic resistance of the	

Recovery level	Claim	Documentation	Interventions and works	Categories of buildings
			building structure, but do not significantly increase the stiffness and mass of the original structure - other measures of similar scope according to the designer's recommendation. Building repair works from Level 2, if acceptable, include works from Level 1. Works of repairing of the building structure from Level 2 should be performed in such a way that allow easy reinforcement building structure from the Level 3.	
Level 3: Construction reinforcement	Improvement (reconstruction) with the aim of bringing the building structure to a state of improved load-bearing capacity. Reinforcement of earthquake-damaged building structure with the application of methods that increase the mechanical resistance and stability of the building in relation to seismic performance for a comparative probability of exceeding 20% in 50 years (return period 225 years) for the limit state of significant damage.	A construction project should be prepared - a project to strengthen the building structure, whereby the calculation of seismic performance is carried out for a comparative probability of exceeding 20% in 50 years (return period 225 years) for the limit state of significant damage. Within the assessment of the seismic resistance of the building, which is an integral part of the construction project, the ratio of the calculated seismic resistance of the structure and seismic resistance is expressed according to the series HRN EN 1998 and the corresponding national annexes. For the implementation of the reinforcement of the earthquake-damaged building structure, it is necessary to make:	Reinforcement of the earthquake-damaged building structure includes the possibility of carrying out the following construction works: - reinforcements of load-bearing walls (injections, grouting, remodelling, FRP (Fiber Reinforced Polymer), fiberglass nets anchored with GFRP (Glass Fiber Reinforced Polymer) anchors, shotcreting) - reinforcement or construction of new floor structures and roofs with prescribed anchoring in the walls - repair and / or construction of new stair treads and landings - construction of new (additional) rigid load-bearing walls (in place of partitions or in new positions) - foundation reinforcement - execution of new vertical and horizontal beams (complete indented into the load-bearing structure of the wall should be avoided) - other interventions that strengthen the earthquake-damaged building structure, and are necessary to achieve mechanical	Buildings whose seismic resistance is important with regard to the consequences related to demolition (the class of importance of building - III according to the series HRN EN 1998). Residential buildings, residential-commercial buildings and commercial buildings and public buildings that were severely damaged in the earthquake. For example: - sports buildings, cinemas, theaters, museums, churches, public administration buildings that are not vital for functioning after the earthquake, health facilities of minor importance (clinics, health centers, etc.), pharmacies,

Recovery level	Claim	Documentation	Interventions and works	Categories of buildings
		- study on the assessment of the existing condition of the building structure with the implementation of a detailed inspection (visual inspection, collection of existing documentation and, if necessary, investigative works) - construction project - project of reinforcement of the building structure, which includes proof of mechanical resistance and stability which includes solutions for the implementation of the planned reinforcements with the development of details and technical elaboration of the solution - project controls in accordance with a special regulation which stipulates project control - development of the project by other specialists (if necessary).	resistance and stability of the building to seismic performance for a comparative probability of exceeding 20% in 50 years (return period 225 years) for the limit state of significant damage. The implementation of the above interventions includes the execution of following construction works (if applicable): - from Level 1 and / or 2, to the extent and scope of appropriate reinforcement of the earthquake damaged building structure to achieve mechanical resistance and stability of the building to seismic performance for a comparative probability of exceeding 20% in 50 years (return period 225 years) for the limit state significant damage - other works required for the implementation of construction works provided for in Level 3. The works from Level 3 assume that the works from Level 2 can be continued, although the building construction can be immediately strengthened to Level 3 with the stated interventions.	schools, kindergartens, colleges and buildings, facilities and supply and telecommunications equipment, if not classified in class of importance IV.
Level 4: Complete reconstruction	Achieving mechanical resistance and stability according to the corresponding standards of the series HRN EN 1998. Complete reconstruction (improvement, reconstruction) of earthquake-damaged building structure with the application of methods that achieve mechanical resistance and	A construction project should be prepared - a project of complete reconstruction of the building structure, where the calculation of seismic performance is carried out by applying methods that achieve mechanical resistance and stability of the building in relation to seismic performance for a comparative	Complete renovation of the building structure includes the implementation of construction works by which the building structure is completely restored, and are necessary to achieve mechanical resistance and stability of the building according to the applicable standards of series HRN EN 1998 for the design of seismic resistance of the structure	Buildings whose integrity during the earthquake is important for the wider community (the class of importance of building - IV according to the series HRN EN 1998). For example:

Recovery level	Claim	Documentation	Interventions and works	Categories of buildings
	stability of the building in relation to seismic performance for a comparative probability of exceeding 10% in 50 years (return period 475 years).	probability of exceeding 10% in 50 years (return period 475 years). Within the assessment of the seismic resistance of the building, which is an integral part of the construction project, the ratio of the calculated seismic resistance of the structure and seismic resistance is expressed according to the series HRN EN 1998 and the corresponding national annexes. For the implementation of the complete reconstruction of the building structure damaged by the earthquake, it is necessary to make: - study on the assessment of the existing condition of the building structure with the implementation of a detailed inspection (visual inspection, collection of existing documentation and, if necessary, investigative works) - construction project - a project of complete renovation of the building structure, which includes proof of mechanical resistance and stability, which includes solutions for the implementation of the planned reinforcements with the development of details and technical elaboration of the solution - project controls in accordance with a special regulation which stipulates project control - development of the project by other specialists (if necessary).	The implementation of the above interventions includes the execution of the following construction works (if applicable): - from Levels 1, 2 and 3, to the extent and scope appropriate to the complete restoration of the earthquake-damaged building structure to achieve mechanical resistance and stability of the building in relation to seismic performance for a comparative probability of exceeding 10% in 50 years (return period 475 years) - other works necessary for the complete renovation of the building structure. All necessary construction works for the complete renovation of the building structure are determined by designer for structure.	- health care facilities of major importance (clinical teaching hospital, etc.), emergency services buildings (fire, emergency care, public and national security, etc.), public administration buildings vital for functioning after the earthquake, buildings of vital importance for supply, telecommunications, energy buildings, buildings for storage of flammable liquids, gases and toxic materials.

ANNEX VIIII - PROTECTION OF CULTURAL HERITAGE WITHIN BUILDING PERMITTING PROCESS ACCORDING TO ACT ON THE PROTECTION AND PRESERVATION OF CULTURAL PROPERTY (OG 69/99, 151/03, 157/03, 100/04, 87/09, 88/10, 61/11, 25/12, 136/12, 157/13, 152/14, 98/15, 44/17, 90/18, 32/20, 62/20)



ANNEX IX - ENVIRONMENTAL AND SOCIAL SCREENING QUESTIONNAIRE AND SCREENING REPORT

This form is to be used by the PIUs to screen for the potential environmental and social risks and impacts of a proposed sub-project. It will help the PIU in establishing an appropriate E&S risk rating for these sub-projects and specifying the type of environmental and social assessment required, including specific instruments/plans. Use of this form will allow the PIU to form an initial view of the potential risks and impacts of a sub-project***. It is not a substitute for project-specific E&S assessments or specific mitigation plans.***

Table 24. Environmental and social screening questionnaire

Name of the project	
Name of the sub-project:	
Estimated Investment:	
Start/Completion Date	
Brief description of the sub-project activities (describe main project features and location of work execution): *Annexes for all additional information can be supplemented if necessary (e.g.) maps with the geographical location of the project*	

No.	Screening Questionnaire	Yes	No	Not known	Not applicable	Additional Clarifications
1.	Is it sub-project listed in the WB exclusion list?					
2.	Will the sub-project include civil works?					
3.	Will the sub-project include reconstruction (new construction)?					
4.	Will the sub-project include only rehabilitation works?					
5.	Will the sub-project include only repair/intervention works?					
6.	According to national legislation does the subproject require EIA?					
7.	Has the opinion that EIA it is not needed been issue? (please attach)					
8.	Is the sub-project taking place in the nature protected or ecological network area?					

No.	Screening Questionnaire	Yes	No	Not known	Not applicable	Additional Clarifications
9.	Is preliminary assessment of acceptability for the ecological network area obtained from the competent authority? (please attached)					
10.	Is permission / confirmation regarding interventions in protected areas obtained from the competent authority? (please attach)					
11.	Will the sub-project affect endangered flora or fauna?					
12.	Will the sub-project affect some critical habitats (forest, wetlands, marshlands, aquatic ecosystems)?					
13.	Will the sub-project produce emissions to air (e.g. dust, air pollutants, green-house-gases emissions, etc.)?					
14.	Will the sub-project produce excessive noise and vibrations?					
15.	Are there any risks of contamination of surface waters?					
16.	Are there any risks of contamination of ground waters?					
17.	Are there any activities which will lead to physical changes of the water body?					
18.	Will the project produce negative impact to soil (erosion, contamination, etc.)?					
19.	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the sub-project?					
20.	Is the subproject located within or in the vicinity of any known cultural heritage site or is sub-project located in protected cultural and historical area?					
21.	Will the sub-project impact archeological or cultural heritage sites?					
22.	Will the sub-project generate non-hazardous wastes?					
23.	Will the sub-project generate hazardous wastes?					
24.	Will the sub-project generate asbestos wastes?					
25.	Will the sub-project generate significant amounts of wastes?					

No.	Screening Questionnaire	Yes	No	Not known	Not applicable	Additional Clarifications
26.	Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the sub-project?					
27.	Are there existing land uses within or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying that could be affected by the sub-project?					
28.	Are there areas within or around the location which are densely populated or builtup, that could be affected by the sub-project?					
29.	May sub-project cause impact on community health and safety?					

Screening Report

Categorization of the Risk	☐ **Low Risk**	☐ **Moderate Risk**	☐ **Substantial Risk**	☐ **High Risk**
	The applicant needs to prepare:	The applicant needs to prepare:	The applicant needs to prepare:	The applicant needs to prepare:
	ESMP Checklist	ESMP Checklist ESMP	ESMP EIA	EIA
Environmental impacts identified (short description and note on significance)				
Social impacts identified (short description and note on significance):				
Additional comments:				

Project Categorization issued WB E&S Specialist: _____

Signature of responsible person: _____

Date: _____

ANNEX X - ESMP CHECK LIST TEMPLATE

The ESMP Checklist provides “pragmatic good practice” and it is designed to be user friendly and compatible with WB safeguard requirements. The checklist-type format attempts to cover typical mitigation approaches to common civil works contracts with localized impacts.

This document will help assess potential environmental impacts associated with the proposed sub-project, identify potential environmental improvement opportunities and recommend measures for to the prevention, minimization and mitigation of adverse environmental and social impacts.

ESMP Checklist is a document prepared and owned by beneficiary.

The checklist has one (1) introduction section and three (3) main parts:

Introduction or foreword part consisted of following sections:

- *Introduction* (sub-project description),
- *Environmental and social category* (environmental and social category is defined),
- *Potential environmental and social impacts* (potential impacts are defined)
- *ESMP Checklist* (concept and application of Checklist are explained),
- *Monitoring and reporting* (brief description of the monitoring and reporting process including responsibilities of involved stakeholders)

Part 1 - constitutes a descriptive part (“site-passport”) that describes the project specifics in terms of physical location, the institutional and legislative aspects, the project description, inclusive of the need for a capacity building program and description of the public consultation process.

Part 2 - includes the environmental and social screening in a simple Yes/No format followed by mitigation measures for any given activity.

Part 3 - is a monitoring plan for activities during project construction and implementation. It retains the same format required for standard World Bank ESMPs.

Table 25. Part I - General project and site information

INSTITUTIONAL & ADMINISTRATIVE				
Country				
Project title				
Scope of project and activity				
Institutional arrangements (WB) (Name and contacts)	(Task Team Leader)	Environmental/Safeguards Specialists:		
Implementation arrangements (Borrower) (Name and contacts)	Safeguard/Environment Supervision	Works supervisor	Inspectorate Supervision	Works Contactor
SITE DESCRIPTION				
Name of site				
Describe site location				
Who owns the land?				
Valid operating permit, licenses, approvals etc.				
LEGISLATION				
Identify national &local legislation & permits that apply to sub-project activity(s)				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place and what were the remarks from the consulted stakeholders				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building?	**[] N or []Y**			
ATTACHEMENTS				
Attachment 1: Site plan / photo Attachment 2: Agreement for waste disposal Other permits/agreements – as required				

Table 26. Part II - Environmental/Social screening

PART 2: ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include / involve any of the following potential issues / risks:	**Activity**	**Status**	**Additional references**
	A. General conditions and social risk management		See Section **A**
	B. Repair / rehabilitation • Increase in dust from repair/rehabilitation activities • Transport of materials • Increase noise level • Increase in sediments loads in water bodies • Changes of water flow • Pollution of water/soil due to temporary waste, fuel, lubricants storage or spill leakage	[ ] Yes [ ] No	If "Yes", See Section A, B, F below
	C. Cultural and historical heritage • Risk of damage to known/unknown historical buildings/cultural and historical area • Chance finds are encountered	[ ] Yes [ ] No	If "Yes", See Section C below
	D. Biodiversity • Vicinity of recognized protection area or ecological network • Disturbance of protected animal habitats • Cutting of trees/forest	[ ] Yes [ ] No	If "Yes", See Section D below
	E. Waste generation and management • Generation of waste	[ ] Yes [ ] No	If "Yes", See Section E below
	F. Traffic disturbance • Site specific vehicular traffic • Site is in a populated area	[ ] Yes [ ] No	If "Yes", See Section A, B, F below

Mitigation measures

A. General conditions and social risk management

B. Repair / rehabilitation activities

C. Cultural and historical heritage (chance finds)

D. Biodiversity

E. Waste generation and management

F. Traffic disturbance

Table 27. Part III - Environmental and social mitigation measures

Activity	Parameter	Mitigation measures checklist
A General conditions and social risk management	Site organization, occupational and health safety, permits and certificates, community health and safety	a) the state inspectorate has been notified of upcoming activities and the copy of notification is available at the construction site, b) construction Work Plan is available at the construction site (in case that two or more contractors perform construction activities) and all occupational health and safety measures are ensured (all emergency response protocols and instructions have to be available at site, e.g. in case of earthquake, fire, etc). c) assign person who is in charge of communication with and receiving requests/complaints from local population, d) try to limit construction activities at night. When necessary, carefully schedule night work and inform affected community beforehand, e) all legally required permits have been acquired and are kept on site, f) contractor/subcontractors have valid operating licenses, g) all work is carried out in a safe and disciplined manner designed to minimize impacts on neighbouring residents and environment, h) transportation of hazardous substances and waste conduct in line with Act on the Transport of Dangerous Goods (OG 79/07, 70/17) and other relevant national legislation and World Bank standards i) mandatory use of protective equipment, workers' personal protective equipment and safety procedures comply with legislation and international good practice (e.g. wearing protective helmets, masks and safety glasses, harnesses and safety boots, etc.),

Activity	Parameter	Mitigation measures checklist
		j) appropriate informative and warning signposting of the sites inform workers of key rules and regulations to follow, k) the construction location is fenced and marked, l) public is informed on the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works), m) entry for unemployed person within the project location is prohibited (within the warning tapes and fences when/where deem needed), n) open pits are covered and clearly marked when not worked on, o) the surrounding area near the project is kept clean, p) machines are handled only by experienced and appropriately trained personnel, thus reducing the risk of accidents, q) devices, equipment and fire extinguishers are always functional, so in case of need they could be used rapidly and efficiently. r) first aid kits are available on the site and personnel trained to use it, s) staff is properly trained for the positions and work performed, workers hold valid workers certificates for e.g. certificates for electrical safety (for li-censed electrician), etc, t) procedures for cases of emergency (including spills, accidents, etc.) are available at the site, u) provide adequate lavatory facilities (toilets and washing areas) in the work site with adequate supplies of hot and cold running water, soap, and hand drying devices, v) purchased equipment installed and used respecting all safety measures prescribed by the producer of equipment and best practices, w) in the case of repair/ rehabilitation activities, if construction site is of such a nature that it is not possible, in line with construction practice, to disable access to the construction site to anyone except work site workers, then it is necessary to provide adequate replacement nearby, x) no temporary storage of construction materials and waste occurs within any type of private property, y) In addition to the World Bank Group EHS Guidelines, follow internal protocols for proper handling and storage of samples, reagents, pharmaceuticals and medical supplies. Materials and chemicals have to be handled by professionally trained persons according to Material Safety Data Sheet. z) ensure suitable arrangements for all necessary welfare and hygiene requirements and for the prevention of COVID-19 epidemics (regular delivery PPEs, ensure protocols for regular disinfection of rooms, equipment, tools, are in place and followed, ensure handwashing and other sanitary stations are always supplied with clean water, soap, and disinfectant, etc) aa) ensure trainings for workers on hygiene and other preventative measures against COVID-19 are carried out. bb) in accordance with the epidemiological situation in the country, it is necessary to follow the WHO

Activity	Parameter	Mitigation measures checklist
		(https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public) recommendations and the recommendations at the official Government website for accurate and verified information on COVID19 (https://koronavirus.hr/en)
B Repair / rehabilitation	Air Quality	a) sprinkle water to limit dust emissions in the area near the construction materials and non-asphalted roads. Use water with all land clearing, grubbing, scraping, excavation, land levelling, grading, cut and fill and demolition activities which may cause dusting and particles emissions, b) cover surfaces with plastic coverings during material storage and transportation, c) adequate locations for storage, mixing and loading of construction materials should be established, d) limit vehicles speed (30 km/h) in the area and access roads, e) periodically clean location and access roads from debris, f) use modern attested construction machinery to minimize emissions, provided with mufflers and maintained in good and efficient operation condition, g) additionally, to minimize dust (mainly PM10) from construction material collection, material retention time at the site should be reduced to a minimum, in order to minimize exposure to wind.
	Noise	a) maximum permissible noise level for the construction site is 65dB. It is allowed to exceed that level for additional 5 dB in the period from 8 to 18 hours. It is desirable to carry out works in the period from 8 to 18 hours and not to carry works during the nights, b) community should be informed in advance of any work activities to occur outside of normal working hours or on weekends, c) all equipment must be maintained in good operating condition and be attested, d) employees have to be asked to use personal hearing protection equipment in the cases defined by the article 8 of Ordinance on the protection of workers from noise exposure at work (OG 46/08), e) during operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible.
	Water quality	a) responsible handle the liquid waste, b) adding oil activities carry out on the part of the construction site that is derived from an impermeable working surface, c) handle all materials in accordance with instructions included in Material safety data sheets (MSDS) which have to be available at the construction site, d) in the case of an accident, any hazardous liquid remove from the soil using adsorption materials such as sand, sawdust or mineral adsorbents. Such waste material you have to collect in tanks, store in the space provided for hazardous waste storage and hand over to authorized companies, e) ensure that water pumped back to natural waterways never exceeds the regulatory water quality standards f) prevent hazardous spillage coming from tanks, containers (mandatory secondary containment

Activity	Parameter	Mitigation measures checklist
		system, e.g. double walled or bunded containers), construction equipment and vehicles (regular maintenance and check-ups of oil and gas tanks, tend to park (manipulate) machinery and vehicles only on asphalted or concrete surfaces with surface runoff water collecting system, g) organize and cover material storage areas, h) isolate wash down areas of concrete and other equipment from watercourse by selecting areas for washing that are not free draining directly or indirectly into watercourse, i) do not extract groundwater on unregulated way, nor discharge cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers on uncontrolled way, j) ensure proper storm water drainage systems installed and take care not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes by repair / rehabilitation activities.
	Soil	a) regular maintain and service the construction machines, b) adhere the measures and standards for construction machinery, c) try to avoid fuel and lubricant storage on construction site, d) if installation of fuel storage tanks will be needed, they should have secondary tanks with sufficient volume to contain a spill from the largest fuel tank in the structure. The containment area has to have a device (pump) to remove accumulated water, e) the containers with hazardous substances should be kept in a leak-proof container to prevent spillage and leaking. This container should possess secondary containment system such as bunds (e.g. bunded-container), double walls, or similar. Secondary containment system must be free of cracks, able to contain the spill, and be emptied quickly, f) the containers with hazardous substances must be kept closed, except when adding or removing materials/waste. They must not be handled, opened, or stored in a manner that may cause them to leak.
C Cultural and historical heritage	Cultural heritage and Chance finds	a) if the building is located in a protected cultural and historical area, notify and obtain approval/permits from competent authorities and address all construction activities in line with legislation, b) if during excavations some archaeological finds are encountered, works have to be stopped immediately and the competent authority informed. Works should be resumed only after appropriate measures have been taken as required by relevant authority and after it confirms that works may continue for all cases where the cultural heritage and its fundamental values can be protected at the existing location with special protection measures protect the cultural heritage on the spot.
D Biodiversity	Biodiversity	a) limit work to the visible part of the day, b) restrict the movement of heavy machinery to the road corridor, c) professionally and carefully handle of equipment and machinery to try to break out accidents such as fires or spills of large amounts of harmful substances into the environment, and thus adversely impact

Activity	Parameter	Mitigation measures checklist
		on the present flora and fauna, d) limit work along watercourses and on watercourses and canals to as small an area as possible, e) avoid, where possible, cutting of trees and other natural vegetation, f) in the case of removing vegetation, to prevent unnecessary loss of vegetation in the project area, clearly marked the areas where vegetation will be removed, g) for the restoration of the removed natural vegetation cover, use only autochthonous plant species that occur in the vegetation communities present in the wider area of the sub-project, h) the potential removal of vegetation plan for the period when birds do not nest. All birds that nest they need to protect until their birds can fly. In case of finding the nests of endangered bird species, prevent their disturbance, and inform about the discovery the central state body responsible for nature protection, i) where possible, the area under repair / rehabilitation fence to lessen even occasional disturbance and dust on habitats and biodiversity. If noise barriers need to be constructed, they should be opaque or with a design and density of stickers that will prevent birds from entering the barriers as much as possible.
E Waste generation and management	Waste management	a) each type of generated waste on the location has to be temporary stored in separate waste container which have to be labelled with waste type name and waste code and located at the solid surface foreseen for that purpose on the construction site, b) records of waste streams and amounts has to be kept for each type of generated waste at the location – *This is the obligation of the principal contractor, unless contractor and investor/another contractor didn't define in contract that investor/another contractor has to keep records,* c) all waste has to be handed over with appropriate documentation to the companies authorized for the waste management (companies that have adequate waste permit), d) in the case of hazardous waste information on handing over waste to the final destination must be obtained, e) whenever feasible the contractor should reuse and recycle appropriate and viable materials (except asbestos), f) mineral (natural) construction and demolition wastes have to be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and temporarily stored in appropriate containers. Depending of its origin and content, mineral waste has to be reapplied to its original location or reused, g) burning or illegal dumping of waste is strictly prohibited. h) For management of infectious wastes, Infection Control and Waste Management Plan (ICWMP) will be prepared.

Activity	Parameter	Mitigation measures checklist
F Traffic disturbance relate to the increased frequency of external transport of materials and techniques	Traffic disturbance	a) traffic management have to be conducted in accordance with provisions of traffic legislation (e.g., appropriate lighting, traffic safety signs, barriers and flag persons that are seen easily or are easy to follow, road speed should be clearly posted), b) it is desirable to avoid transport on access roads during rush hours.

Table 28. CULTURAL HERITAGE MANAGEMENT PLAN (CHMP)

CHMP measures			
Phase	**Mitigation measure**	**When should the measure be implemented**	**Implementation responsibility**
During activity preparation			
During activity design			
All phases			

CHMP as an annex of ESMP Checklists in line with the ESS10, has to be enclosed and special conditions for the protection of cultural heritage (if applicable) have to be attached.

Table 29. Monitoring plan

Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter to be monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in project budget)	**Who** (Is responsible for monitoring?)
During **preparation**							
During **implementation**							
During **operation**							

ANNEX XII - CONTENT OF THE ESMP

Environmental and social management plan (ESMP) consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a project to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures. The set of responses to potentially adverse impacts has to be identified; requirements for ensuring that those responses are made effectively and in a timely manner have to be determined and the means for meeting those requirements described.

Therefore, it will include following parts:

a) Mitigation – identification and summarizing all anticipated adverse environmental and social impacts (including those involving indigenous people or involuntary resettlement); description—with technical details—of each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; estimation of any potential environmental and social impacts of these measures; taking into account other mitigation plans required for the project.

b) Monitoring - the monitoring section of the ESMP provides a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures, and furnish information on the progress and results of mitigation.

c) Capacity Development and Training - to support timely and effective implementation of environmental and social project components and mitigation measures, the ESMP draws on the environmental and social assessment of the existence, role, and capability of responsible parties on site or at the agency and ministry level. Specifically, the ESMP provides a specific description of institutional arrangements, identifying which party is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental and social management capability in the agencies responsible for implementation, the ESMP recommends the establishment or expansion of the parties responsible, the training of staff and any additional measures that may be necessary to support implementation of mitigation measures and any other recommendations of the environmental and social assessment.

d) Implementation Schedule and Cost Estimates - for all three aspects (mitigation, monitoring, and capacity development), the ESMP provides an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Given the above, ESMP for the sub-projects under Component 2 has to consist sections as follows:

Table 30. Structure of site specific ESMPs

Section	Description
Executive summary	Should provide a general summary of the ESMP contents and key findings, in a vocabulary that is easily understood by the general public. It should be clear, concise ranging from 1 to 3 pages;
Introduction	An introduction describing the ESMP purpose, objectives, principles and methodology. This section should introduce the sub-project proponents, the study team, and provide other relevant information. The layout of ESMP should also be described to facilitate its use.
Sub-project description	A description of the sub-project which will include background, purpose and different components. Also indicate any sub-project specific resource requirements such as material, manpower, equipment, etc.
Environmental baseline of sub-project area	This section gives site specific overview of baseline covering physical and biological environment like: air quality, waste management, nature protection, noise, temperatures, rainfall etc.
Social-economic baseline of sub-project area	This section describes socio-economic profile of the sub-project area like: administrative division, community structure, population, economy, cultural heritage sites, health care, education etc.
Stakeholder consultation and information disclosure	This section will describe the objective, process, and outcome of the stakeholder consultations carried out during the ESMP preparation. This section should also list arrangements for disclosing sub-projects information in order to comply with the Bank's Policy of Disclosure of Information
Impacts and mitigation	This section will identify all environmental and social impacts with cost effective and feasible measures to reduce adverse environmental impact to acceptable level. It will describe with technical details mitigation measures including the type of impact to which it relates to. It will also describe methodology for social impacts.
Institutional arrangement and trainings for users and contractors	Detailed description of institutional arrangements, roles and responsibilities and reporting procedures should be presented. There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies. Reporting procedure including grievance redress mechanism should also be proposed.
ESMP Implementation Budget	An ESMP implementation budget estimates are provided here. The budget will include funds for institutions development activities, training programs for implementation teams and local/national institutions, technical assistance to authorities, costs for preparations of EMPs and other safeguard documents.
Environmental and social monitoring and mitigation plans	This section will provide specific description and technical details of monitoring measures including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions. The monitoring and reporting procedures will ensure early detection of conditions that necessitate particular mitigation measures, and furnish information on the progress and results of mitigation.
Cultural Heritage Monitoring Plan	For sub-project located in the protected cultural and historical area there is a risk that conduction of civil works could transform landscapes and maintenance of cultural and regional identity. CHMP will be developed according to CHMP template and special conditions for the protection of cultural heritage (if applicable) and will be attached.
Annexes	Technical annexes to support ESMP implementation

Table 31. Environmental and social mitigation plan template - Civil Works Preparation / Implementation phase

Potential impact	Proposed mitigation measures	Costs	Responsibility	
			Implementation	Supervision
a) OHS and community safety issues				
b) Air pollution				
c) Noise				
d) Surface or gound water pollution				
e) Soil pollution or erosion				
d) Biodiversity (flora and fauna)				
e) Traffic disturbance				
f) Waste generation and management				
j) Other				

Cultural heritage management plan (CHMP) and Monitoring plan is given in previous Annex (ESMP CHECK LIST TEMPLATE)

ANNEX XII- MONTHLY FIELD ENVIRONMENTAL MONITORING CHECKLIST

Table 32. Monthly field environmental monitoring checklist

Site location					
Name of contractor					
Name of supervisor					
Date of site visit					
Status of civil works					
Documents and activities to be examined	Status				Comments
	Yes	Partially	No	N/A	
Contractor holds all necessary permits					
Contractor holds agreement for final disposal of waste (including municipal waste)					
Work site is fenced, and warning signs installed, open pits covered and clearly marked, entry for unemployed person within the project location is prohibited					
Devices, equipment and fire extinguishers are on site and functional, first aid kits are available on the site and personnel trained to use it, procedures for cases of emergency (including spills, accidents, etc.) are available at the site					
The surrounding area near the project is kept clean					
Works do not impede pedestrian access and motor traffic, or temporary alternative access is provided					
Working hours are observed and community is informed in advance of any work activities to occur outside of normal working hours					
Construction machinery and equipment is in standard technical condition (no excessive exhaust and noise, no leakage of fuels and lubricants)					
Construction materials and waste are transported under the covered hood					
Construction site is watered in case of excessively dusty works					
Sites for temporary storage of waste and for vehicle/equipment servicing are designated and waste is stored separately by type in labelled containers					
Adequate lavatory facilities (toilets and washing areas) in the work					

site with adequate supplies of hot and cold running water, soap, are provided					
Workers have and wear adequate uniforms and protective gear (gloves, helmets, eye- glasses, etc.)					
COVID-19 preventive measures are conducted at work site (regular delivery PPEs, protocols for regular disinfection of rooms, equipment, tools, are in place and followed, handwashing and other sanitary stations are always supplied with clean water, soap, and disinfectant, etc)					
Servicing and fuelling of vehicles and machinery is undertaken on an impermeable surface at specially designated area					
Vehicles and machinery are washed away from natural water bodies in the way preventing direct discharge of runoff into the water bodies, proper storm water drainage systems installed					
Excess material and topsoil generated from soil excavation are stored separately and used for backfilling / site reinstatement as required					
Works taken on hold if chance find encountered and communication made to the state agencies responsible for cultural heritage preservation					
Upon completion of physical activity on site, the site is cleared of any remaining left-over from works and harmonized with the surrounding landscape (only autochthonous plant species that occur in the vegetation communities present in the wider area of the sub-project are used for restoration)					
Other					

ANNEX XIIIII – INFECTION CONTROL AND WASTE MANAGEMENT PLAN (ICWMP) TEMPLATE

1. Introduction

1.1. Describe the project context and components

1.2. Describe the targeted healthcare facility (HCF):

- Type: E.g. general hospital, clinics, inpatient/outpatient facility, medical laboratory, quarantine or isolation centers;
- *Special type of HCF in response to COVID-19: E.g. existing assets may be acquired to hold yet-to-confirm cases for medical observation or isolation;*
- Functions and requirement for the level infection control, e.g. biosafety levels;
- Location and associated facilities, including access, water supply, power supply;
- Capacity: beds

1.3. Describe the design requirements of the HCF, which may include specifications for general design and safety, separation of wards, heating, ventilation and air conditioning (HVAC), autoclave, wastewater treatment plant, and waste management facilities.

2. Infection Control and Waste Management

2.1 Overview of infection control and waste management in the HCF

- Type, source and volume of healthcare waste (HCW) generated in the HCF, including solid, liquid and air emissions (if significant)
- Classify and quantify the HCW (infectious waste, pathological waste, sharps, liquid and non-hazardous) following WBG EHS Guidelines for Healthcare Facilities and pertaining GIIP.
- *Given the infectious nature of the novel coronavirus, some wastes that are traditionally classified as non-hazardous may be considered hazardous. It's likely the volume of waste will increase considerably given the number of admitted patients during COVID-19 outbreak. Special attention should be given to the identification, classification and quantification of the healthcare wastes.*
- Describe the healthcare waste management system in the HCF, including material delivery, waste generation, handling, disinfection and sterilization, collection, storage, transport, and disposal and treatment works
- Provide a flow chart of waste streams in the HCF if available
- Describe applicable performance levels and/or standards
- Describe institutional arrangement, roles and responsibilities in the HCF for infection control and waste management

Note: According to legislation of the Republic of Croatia type, source and mass of healthcare waste (HCW) generated in the HCF, should be classified and quantify following Ordinance on waste catalogue (OG 90/15) and Ordinance on waste management (OG 81/20) for all HCW except radioactive medical waste. For radioactive medical waste follow the provisions of Ordinance on disposal of radioactive waste and used sources (OG 12/18). Additionally, WBG EHS Guidelines for Healthcare Facilities and pertaining GIIP

should be followed. List of COVID -19 guidances is provided in ANNEX XV– LIST OF COVID-19 GUIDANCES. Furthermore, waste management procedures are presented in Chapter 7.1.1.8 of this ESMF.

2.2 Management Measures

- Waste minimization, reuse and recycling: HCF should consider practices and procedures to minimize waste generation, without sacrificing patient hygiene and safety considerations.
- Delivery and storage of specimen, samples, reagents, pharmaceuticals and medical supplies: HCF should adopt practice and procedures to minimize risks associated with delivering, receiving and storage of hazardous medical goods.
- Waste segregation, packaging, colour coding and labelling: HCF should strictly conduct waste segregation at the point of generation. Internationally adopted method for packaging, colour coding and labelling the wastes should be followed.
- Onsite collection and transport: HCF should adopt practices and procedures to timely remove properly packaged and labelled wastes. Disinfection of pertaining tools and spaces should be routinely conducted. Hygiene and safety of involved supporting medical workers such as cleaners should be ensured.
- Waste storage: A HCF should have multiple waste storage areas designed for different types of wastes. Their functions and sizes are determined at design stage. Proper maintenance and disinfection of the storage areas should be carried out. Existing reports suggest that during the COVID-19 outbreak, infectious wastes should be removed from HCF's storage area for disposal within 24 hours.
- Onsite waste treatment and disposal (e.g. an incinerator): Many HCFs have their own waste incineration facilities installed onsite. Due diligence of an existing incinerator should be conducted to examine its technical adequacy, process capacity, performance record, and operator's capacity. In case any gaps are discovered, corrective measures should be recommended. For new HCF financed by the project, waste disposal facilities should be integrated into the overall design and ESIA developed. Good design, operational practices and internationally adopted emission standards for healthcare waste incinerators can be found in pertaining EHS Guidelines and GIIP.
- Transportation and disposal at offsite waste management facilities: Not all HCF has adequate or well-performed incinerator onsite. Not all healthcare wastes are suitable for incineration. An onsite incinerator produces residuals after incineration. Hence offsite waste disposal facilities provided by local government or the private sector are probably needed. These offsite waste management facilities may include incinerators, hazardous wastes landfill. In the same vein, due diligence of such external waste management facilities should be conducted to examine its technical adequacy, process capacity, performance record, and operator's capacity. In case any gaps are discovered, corrective measures should be recommended and agreed with the government or the private sector operators.
- Wastewater treatment: HCF wastewater is related to hazardous waste management practices. Proper waste segregation and handling as discussed above should be conducted to minimize entry of solid waste into the wastewater stream. In case wastewater is discharged into municipal sewer sewerage system, the HCF should ensure that wastewater effluent comply with all applicable permits and standards, and the municipal wastewater treatment plant (WWTP) is capable of handling the type of effluent discharged. In cases where municipal sewage system is not in place, HCF should build and properly operate onsite primary and secondary wastewater treatment works, including disinfection. Residuals of the onsite wastewater treatment works, such as sludge, should be properly disposed of

as well. There're also cases where HCF wastewater is transported by trucks to a municipal wastewater treatment plant for treatment. Requirements on safe transportation, due diligence of WWTP in terms of its capacity and performance should be conducted.

Note: Practice in the Republic of Croatia is following:

National method for packaging, labelling and storage of waste is defined by Ordinance on waste management (OG 81/20), Ordinance on medical waste management (OG 50/15,56/19); Ordinance on disposal of radioactive waste and used sources (OG 12/18)

Transportation and disposal at offsite waste management facilities: HCW which occurs on the location of HCF must be submitted to the authorized companies (Information available: Register of permits and certificates for waste management, MoESD – HCW except radioactive waste and Department of Environment and Radioactive Waste, MoI – Radioactive medical waste).

Wastewater treatment: In case wastewater is discharged into municipal sewer sewerage system, the HCF should ensure that wastewater effluent comply with all applicable permits and standards stipulated by Ordinance on issuance of water law acts (OG 9/20) and Ordinance on limit values of wastewater emissions (OG 26/20). Residuals of the onsite wastewater treatment works, such as sludge, should be properly handed over to the authorized waste company.

If there are cases where HCF wastewater is transported by trucks to a municipal wastewater treatment plant for treatment it has to be conducted by authorized company, too (municipality / city owned companies responsible for water supply and drainage).

Waste storage: Proper maintenance and disinfection of the storage areas should be carried out. During the COVID-19 outbreak, infectious wastes should be removed from HCF's storage area in accordance with the requirements regarding infectious waste stipulated by Ordinance on medical waste management (OG 50/15, 56/19).

3. Emergency Preparedness and Response

Emergency incidents occurring in an HCF may include spillage, occupational exposure to infectious materials or radiation, accidental releases of infectious or hazardous substances to the environment, medical equipment failure, failure of solid waste and wastewater treatment facilities, and fire. These emergency events are likely to seriously affect medical workers, communities, the HCF's operation and the environment.

- Provide an overview of the existing practices to deal with the emergency situations.

4. Institutional Arrangement and Capacity Building

A clearly defined institutional arrangement, roles and responsibilities should be included. A training plan with recurring training programs should be developed. The following aspects are recommended:

- Define roles and responsibilities along each link of the chain along the cradle-to-crave infection control and waste management process;
- Ensure adequate and qualified staff are in place, including those in charge of infection control and biosafety and waste management facility operation.
- Stress the chief of a HCF takes overall responsibility for infection control and waste management;
- Involve all relevant departments in a HCF, and build an intra-departmental team to manage, coordinate and regularly review issues and performance;

- Establish an information management system to track and record the waste streams in HCF,
- Capacity building and training should involve medical workers, waste management workers and cleaners. Third-party waste management service providers should be provided with relevant training as well.

5. Monitoring and Reporting

Many HCFs in developing countries face the challenge of inadequate monitoring and records of healthcare waste streams. HCF should establish an information management system to track and record the waste streams from the point of generation, segregation, packaging, temporary storage, transport carts/vehicles, to treatment facilities. The HCF is encouraged to develop an IT based information management system should their technical and financial capacity allow.

As discussed above, the HCF chief takes overall responsibility, leads an intra-departmental team and regularly reviews issues and performance of the infection control and waste management practices in the HCF. Internal reporting and filing systems should be in place.

Externally, reporting should be conducted per government and World Bank requirements defined int the ESMF E&S Review Procedures.

HCF should establish an information management system to track and record the waste streams from the point of generation, segregation, packaging, temporary storage, transport carts/vehicles, to treatment facilities. Also, records on air emissions and water emissions should be kept, where applicable.

Note: Environmental Information System in the Republic of Croatia (record keeping) is regulated by:

Ordinance on waste management (OG 81/20), Ordinance on medical waste management (OG 50/15, 56/19), Ordinance on the environmental pollution registry (OG 87/15) ; Ordinance on disposal of radioactive waste and used sources (OG 12/18)); Ordinance on limit values of wastewater emissions (OG 26/20); Regulation on limit values of emissions of pollutants into the air from immovable sources (OG 87/17).

Table 33. ICWMP table

Activities	Potential E&S Issues and Risks	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
General HCF operation – Environment	General wastes, wastewater and air emissions				
General HCF operation – OHS issues	- Physical hazards; - Electrical and explosive hazards; - Fire; - Chemical use; - Ergonomic hazard; - Radioactive hazard.				
HCF operation - Infection control and waste management plan					
Waste minimization, reuse and recycling					
Delivery and storage of specimen, samples, reagents, pharmaceuticals and medical supplies					
Storage and handling of specimen, samples, reagents, and infectious materials					
Waste segregation, packaging, colour coding and labelling					
Onsite collection and transport					

Activities	Potential E&S Issues and Risks	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
Waste storage					
Waste transportation to and disposal in offsite treatment and disposal facilities					
HCF operation – transboundary movement of specimen, samples, reagents, medical equipment, and infectious materials					
Emergency events	- Spillage; - Occupational exposure to infectious; - Exposure to radiation; - Accidental releases of infectious or hazardous substances to the environment; - Medical equipment failure; - Failure of solid waste and wastewater treatment facilities; - Fire; - Other emergent events				
Operation of acquired assets for holding potential COVID-19 patients					
To be expanded					

ANNEX XIV – ESF/SAFEGUARDS INTERIM NOTE

COVID-19 CONSIDERATIONS IN CONSTRUCTION/CIVIL WORKS PROJECTS

This note was issued on April 7, 2020 and includes links to the latest guidance as of this date (e.g. from WHO). Given the COVID-19 situation is rapidly evolving, when using this note it is important to check whether any updates to these external resources have been issued.

1. INTRODUCTION

The COVID-19 pandemic presents Governments with unprecedented challenges. Addressing COVID-19 related issues in both existing and new operations starts with recognizing that this is not business as usual and that circumstances require a highly adaptive responsive management design to avoid, minimize and manage what may be a rapidly evolving situation. In many cases, we will ask Borrowers to use reasonable efforts in the circumstances, recognizing that what may be possible today may be different next week (both positively, because more supplies and guidance may be available, and negatively, because the spread of the virus may have accelerated).

This interim note is intended to provide guidance to teams on how to support Borrowers in addressing key issues associated with COVID-19, and consolidates the advice that has already been provided over the past month. As such, it should be used in place of other guidance that has been provided to date. This note will be developed as the global situation and the Bank's learning (and that of others) develops. This is not a time when 'one size fits all'. More than ever, teams will need to work with Borrowers and projects to understand the activities being carried out and the risks that these activities may entail. Support will be needed in designing mitigation measures that are implementable in the context of the project. These measures will need to take into account capacity of the Government agencies, availability of supplies and the practical challenges of operations on-the-ground, including stakeholder engagement, supervision and monitoring. In many circumstances, communication itself may be challenging, where face-to-face meetings are restricted or prohibited, and where IT solutions are limited or unreliable.

This note emphasizes the importance of careful scenario planning, clear procedures and protocols, management systems, effective communication and coordination, and the need for high levels of responsiveness in a changing environment. It recommends assessing the current situation of the project, putting in place mitigation measures to avoid or minimize the chance of infection, and planning what to do if either project workers become infected or the work force includes workers from proximate communities affected by COVID-19. In many projects, measures to avoid or minimize will need to be implemented at the same time as dealing with sick workers and relations with the community, some of whom may also be ill or concerned about infection. Borrowers should understand the obligations that contractors have under their existing contracts (see Section 3), require contractors to put in place appropriate organizational structures (see Section 4) and develop procedures to address different aspects of COVID-19 (see Section 5).

2. CHALLENGES WITH CONSTRUCTION/CIVIL WORKS

Projects involving construction/civil works frequently involve a large work force, together with suppliers and supporting functions and services. The work force may comprise workers from international, national, regional, and local labor markets. They may need to live in on-site accommodation, lodge within communities close to work sites or return to their homes after work. There may be different contractors permanently present on site, carrying out different activities, each with their own dedicated workers. Supply chains may involve international, regional and national

suppliers facilitating the regular flow of goods and services to the project (including supplies essential to the project such as fuel, food, and water). As such there will also be regular flow of parties entering and exiting the site; support services, such as catering, cleaning services, equipment, material and supply deliveries, and specialist sub-contractors, brought in to deliver specific elements of the works.

Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is extremely serious, as are the implications of such a spread. Projects may experience large numbers of the work force becoming ill, which will strain the project's health facilities, have implications for local emergency and health services and may jeopardize the progress of the construction work and the schedule of the project. Such impacts will be exacerbated where a work force is large and/or the project is in remote or under-serviced areas. In such circumstances, relationships with the community can be strained or difficult and conflict can arise, particularly if people feel they are being exposed to disease by the project or are having to compete for scarce resources. The project must also exercise appropriate precautions against introducing the infection to local communities.

3. DOES THE CONSTRUCTION CONTRACT COVER THIS SITUATION?

Given the unprecedented nature of the COVID-19 pandemic, it is unlikely that the existing construction/civil works contracts will cover all the things that a prudent contractor will need to do. Nevertheless, the first place for a Borrower to start is with the contract, determining what a contractor's existing obligations are, and how these relate to the current situation.

The obligations on health and safety will depend on what kind of contract exists (between the Borrower and the main contractor; between the main contractors and the sub-contractors). It will differ if the Borrower used the World Bank's standard procurement documents (SPDs) or used national bidding documents. If a FIDIC document has been used, there will be general provisions relating to health and safety. For example, the standard FIDIC, Conditions of Contract for Construction (Second Edition 2017), which contains no 'ESF enhancements', states (in the General Conditions, clause 6.7) that the Contractor will be required:

- to take all necessary precautions to maintain the health and safety of the Contractor's Personnel
- to appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site and to take protective measures to prevent accidents
- to ensure, in collaboration with local health authorities, that medical staff, first aid facilities, sick bay, ambulance services and any other medical services specified are available at all times at the site and at any accommodation
- to ensure suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics

These requirements have been enhanced through the introduction of the ESF into the SPDs (edition dated July 2019). The general FIDIC clause referred to above has been strengthened to reflect the requirements of the ESF. Beyond FIDIC's general requirements discussed above, the Bank's Particular Conditions include a number of relevant requirements on the Contractor, including:

- to provide health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities)

- to put in place workplace processes for Contractor's Personnel to report work situations that are not safe or healthy
- gives Contractor's Personnel the right to report work situations which they believe are not safe or healthy, and to remove themselves from a work situation which they have a reasonable justification to believe presents an imminent and serious danger to their life or health (with no reprisal for reporting or removing themselves)
- requires measures to be in place to avoid or minimize the spread of diseases including measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent contract-related labor
- to provide an easily accessible grievance mechanism to raise workplace concerns

Where the contract form used is FIDIC, the Borrower (as the Employer) will be represented by the Engineer (also referred to in this note as the Supervising Engineer). The Engineer will be authorized to exercise authority specified in or necessarily implied from the construction contract. In such cases, the Engineer (through its staff on site) will be the interface between the PIU and the Contractor. It is important therefore to understand the scope of the Engineer's responsibilities. It is also important to recognize that in the case of infectious diseases such as COVID-19, project management – through the Contractor/subcontractor hierarchy – is only as effective as the weakest link. A thorough review of management procedures/plans as they will be implemented through the entire contractor hierarchy is important. Existing contracts provide the outline of this structure; they form the basis for the Borrower to understand how proposed mitigation measures will be designed and how adaptive management will be implemented, and to start a conversation with the Contractor on measures to address COVID-19 in the project.

4. WHAT PLANNING SHOULD THE BORROWER BE DOING?

Task teams should work with Borrowers (PIUs) to confirm that projects (i) are taking adequate precautions to prevent or minimize an outbreak of COVID-19, and (ii) have identified what to do in the event of an outbreak. Suggestions on how to do this are set out below:

- The PIU, either directly or through the Supervising Engineer, should request details in writing from the main Contractor of the measures being taken to address the risks. As stated in Section 3, the construction contract should include health and safety requirements, and these can be used as the basis for identification of, and requirements to implement, COVID-19 specific measures. The measures may be presented as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures. The measures may be reflected in revisions to the project's health and safety manual. This request should be made in writing (following any relevant procedure set out in the contract between the Borrower and the contractor).
- In making the request, it may be helpful for the PIU to specify the areas that should be covered. This should include the items set out in Section 5 below and take into account current and relevant guidance provided by national authorities, WHO and other organizations. See the list of references in the Annex to this note.
- The PIU should require the Contractor to convene regular meetings with the project health and safety specialists and medical staff (and where appropriate the local health authorities), and to take their advice in designing and implementing the agreed measures.
- Where possible, a senior person should be identified as a focal point to deal with COVID-19 issues. This can be a work supervisor or a health and safety specialist. This person can be responsible for coordinating preparation of the site and making sure that the measures taken are communicated to the workers, those entering the site and the local community. It is also advisable to designate at least one back-up person, in case the focal point becomes ill; that person should be aware of the arrangements that are in place.

- On sites where there are a number of contractors and therefore (in effect) different work forces, the request should emphasize the importance of coordination and communication between the different parties. Where necessary, the PIU should request the main contractor to put in place a protocol for regular meetings of the different contractors, requiring each to appoint a designated staff member (with back up) to attend such meetings. If meetings cannot be held in person, they should be conducted using whatever IT is available. The effectiveness of mitigation measures will depend on the weakest implementation, and therefore it is important that all contractors and sub-contractors understand the risks and the procedure to be followed.
- The PIU, either directly or through the Supervising Engineer, may provide support to projects in identifying appropriate mitigation measures, particularly where these will involve interface with local services, in particular health and emergency services. In many cases, the PIU can play a valuable role in connecting project representatives with local Government agencies, and helping coordinate a strategic response, which takes into account the availability of resources. To be most effective, projects should consult and coordinate with relevant Government agencies and other projects in the vicinity.
- Workers should be encouraged to use the existing project grievance mechanism to report concerns relating to COVID-19, preparations being made by the project to address COVID-19 related issues, how procedures are being implemented, and concerns about the health of their co-workers and other staff.

5. WHAT SHOULD THE CONTRACTOR COVER?

The Contractor should identify measures to address the COVID-19 situation. What will be possible will depend on the context of the project: the location, existing project resources, availability of supplies, capacity of local emergency/health services, the extent to which the virus already exist in the area. A systematic approach to planning, recognizing the challenges associated with rapidly changing circumstances, will help the project put in place the best measures possible to address the situation. As discussed above, measures to address COVID-19 may be presented in different ways (as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures). PIUs and contractors should refer to guidance issued by relevant authorities, both national and international (e.g. WHO), which is regularly updated (see sample References and links provided in the Annex).

Addressing COVID-19 at a project site goes beyond occupational health and safety, and is a broader project issue which will require the involvement of different members of a project management team. In many cases, the most effective approach will be to establish procedures to address the issues, and then to ensure that these procedures are implemented systematically. Where appropriate given the project context, a designated team should be established to address COVID-19 issues, including PIU representatives, the Supervising Engineer, management (e.g. the project manager) of the contractor and sub-contractors, security, and medical and OHS professionals. Procedures should be clear and straightforward, improved as necessary, and supervised and monitored by the COVID-19 focal point(s). Procedures should be documented, distributed to all contractors, and discussed at regular meetings to facilitate adaptive management. The issues set out below include a number that represent expected good workplace management but are especially pertinent in preparing the project response to COVID-19.

a. ASSESSING WORKFORCE CHARACTERISTICS

Many construction sites will have a mix of workers e.g. workers from the local communities; workers from a different part of the country; workers from another country. Workers will be employed under

different terms and conditions and be accommodated in different ways. Assessing these different aspects of the workforce will help in identifying appropriate mitigation measures:

- The Contractor should prepare a detailed profile of the project work force, key work activities, schedule for carrying out such activities, different durations of contract and rotations (e.g. 4 weeks on, 4 weeks off).
- This should include a breakdown of workers who reside at home (i.e. workers from the community), workers who lodge within the local community and workers in on-site accommodation. Where possible, it should also identify workers that may be more at risk from COVID-19, those with underlying health issues or who may be otherwise at risk.
- Consideration should be given to ways in which to minimize movement in and out of site. This could include lengthening the term of existing contracts, to avoid workers returning home to affected areas, or returning to site from affected areas.
- Workers accommodated on site should be required to minimize contact with people near the site, and in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided.
- Consideration should be given to requiring workers lodging in the local community to move to site accommodation (subject to availability) where they would be subject to the same restrictions.
- Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work.

b. ENTRY/EXIT TO THE WORK SITE AND CHECKS ON COMMENCEMENT OF WORK

Entry/exit to the work site should be controlled and documented for both workers and other parties, including support staff and suppliers. Possible measures may include:

- Establishing a system for controlling entry/exit to the site, securing the boundaries of the site, and establishing designating entry/exit points (if they do not already exist). Entry/exit to the site should be documented.
- Training security staff on the (enhanced) system that has been put in place for securing the site and controlling entry and exit, the behaviors required of them in enforcing such system and any COVID -19 specific considerations.
- Training staff who will be monitoring entry to the site, providing them with the resources they need to document entry of workers, conducting temperature checks and recording details of any worker that is denied entry.
- Confirming that workers are fit for work before they enter the site or start work. While procedures should already be in place for this, special attention should be paid to workers with underlying health issues or who may be otherwise at risk. Consideration should be given to demobilization of staff with underlying health issues.
- Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site.
- Providing daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures, using demonstrations and participatory methods.
- During the daily briefings, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell.

- Preventing a worker from an affected area or who has been in contact with an infected person from returning to the site for 14 days or (if that is not possible) isolating such worker for 14 days.
- Preventing a sick worker from entering the site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days.

c. GENERAL HYGIENE

Requirements on general hygiene should be communicated and monitored, to include:

- Training workers and staff on site on the signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular handwashing and social distancing) and what to do if they or other people have symptoms (for further information see WHO COVID-19 advice for the public).
- Placing posters and signs around the site, with images and text in local languages.
- Ensuring handwashing facilities supplied with soap, disposable paper towels and closed waste bins exist at key places throughout site, including at entrances/exits to work areas; where there is a toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces. Where handwashing facilities do not exist or are not adequate, arrangements should be made to set them up. Alcohol based sanitizer (if available, 60-95% alcohol) can also be used.
- Review worker accommodations, and assess them in light of the requirements set out in IFC/EBRD guidance on Workers' Accommodation: processes and standards, which provides valuable guidance as to good practice for accommodation.
- Setting aside part of worker accommodation for precautionary self-quarantine as well as more formal isolation of staff who may be infected (see paragraph (f)).

d. CLEANING AND WASTE DISPOSAL

Conduct regular and thorough cleaning of all site facilities, including offices, accommodation, canteens, common spaces. Review cleaning protocols for key construction equipment (particularly if it is being operated by different workers). This should include:

- Providing cleaning staff with adequate cleaning equipment, materials and disinfectant.
- Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.
- Where it is anticipated that cleaners will be required to clean areas that have been or are suspected to have been contaminated with COVID-19, providing them with appropriate PPE: gowns or aprons, gloves, eye protection (masks, goggles or face screens) and boots or closed work shoes. If appropriate PPE is not available, cleaners should be provided with best available alternatives.
- Training cleaners in proper hygiene (including handwashing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).
- Any medical waste produced during the care of ill workers should be collected safely in designated containers or bags and treated and disposed of following relevant requirements (e.g., national, WHO). If open burning and incineration of medical wastes is necessary, this should be for as limited a duration as possible. Waste should be reduced and segregated, so that only the smallest amount of waste is incinerated (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19).

e. ADJUSTING WORK PRACTICES

Consider changes to work processes and timings to reduce or minimize contact between workers, recognizing that this is likely to impact the project schedule. Such measures could include:

- Decreasing the size of work teams.
- Limiting the number of workers on site at any one time.
- Changing to a 24-hour work rotation.
- Adapting or redesigning work processes for specific work activities and tasks to enable social distancing, and training workers on these processes.
- Continuing with the usual safety trainings, adding COVID-19 specific considerations. Training should include proper use of normal PPE. While as of the date of this note, general advice is that construction workers do not require COVID-19 specific PPE, this should be kept under review (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- Reviewing work methods to reduce use of construction PPE, in case supplies become scarce or the PPE is needed for medical workers or cleaners. This could include, e.g. trying to reduce the need for dust masks by checking that water sprinkling systems are in good working order and are maintained or reducing the speed limit for haul trucks.
- Arranging (where possible) for work breaks to be taken in outdoor areas within the site.
- Consider changing canteen layouts and phasing meal times to allow for social distancing and phasing access to and/or temporarily restricting access to leisure facilities that may exist on site, including gyms.
- At some point, it may be necessary to review the overall project schedule, to assess the extent to which it needs to be adjusted (or work stopped completely) to reflect prudent work practices, potential exposure of both workers and the community and availability of supplies, taking into account Government advice and instructions.

f. PROJECT MEDICAL SERVICES

Consider whether existing project medical services are adequate, taking into account existing infrastructure (size of clinic/medical post, number of beds, isolation facilities), medical staff, equipment and supplies, procedures and training. Where these are not adequate, consider upgrading services where possible, including:

- Expanding medical infrastructure and preparing areas where patients can be isolated. Guidance on setting up isolation facilities is set out in WHO interim guidance on considerations for quarantine of individuals in the context of containment for COVID-19). Isolation facilities should be located away from worker accommodation and ongoing work activities. Where possible, workers should be provided with a single well-ventilated room (open windows and door). Where this is not possible, isolation facilities should allow at least 1 meter between workers in the same room, separating workers with curtains, if possible. Sick workers should limit their movements, avoiding common areas and facilities and not be allowed visitors until they have been clear of symptoms for 14 days. If they need to use common areas and facilities (e.g. kitchens or canteens), they should only do so when unaffected workers are not present and the area/facilities should be cleaned prior to and after such use.
- Training medical staff, which should include current WHO advice on COVID-19 and recommendations on the specifics of COVID-19. Where COVID-19 infection is suspected, medical providers on site should follow WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected.
- Training medical staff in testing, if testing is available.

- Assessing the current stock of equipment, supplies and medicines on site, and obtaining additional stock, where required and possible. This could include medical PPE, such as gowns, aprons, medical masks, gloves, and eye protection. Refer to WHO guidance as to what is advised (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- If PPE items are unavailable due to world-wide shortages, medical staff on the project should agree on alternatives and try to procure them. Alternatives that may commonly be found on constructions sites include dust masks, construction gloves and eye goggles. While these items are not recommended, they should be used as a last resort if no medical PPE is available.
- Ventilators will not normally be available on work sites, and in any event, intubation should only be conducted by experienced medical staff. If a worker is extremely ill and unable to breathe properly on his or her own, they should be referred immediately to the local hospital (see (g) below).
- Review existing methods for dealing with medical waste, including systems for storage and disposal (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19, and WHO guidance on safe management of wastes from health-care activities).

g. LOCAL MEDICAL AND OTHER SERVICES

Given the limited scope of project medical services, the project may need to refer sick workers to local medical services. Preparation for this includes:

- Obtaining information as to the resources and capacity of local medical services (e.g. number of beds, availability of trained staff and essential supplies).
- Conducting preliminary discussions with specific medical facilities, to agree what should be done in the event of ill workers needing to be referred.
- Considering ways in which the project may be able to support local medical services in preparing for members of the community becoming ill, recognizing that the elderly or those with pre-existing medical conditions require additional support to access appropriate treatment if they become ill.
- Clarifying the way in which an ill worker will be transported to the medical facility, and checking availability of such transportation.
- Establishing an agreed protocol for communications with local emergency/medical services. Agreeing with the local medical services/specific medical facilities the scope of services to be provided, the procedure for in-take of patients and (where relevant) any costs or payments that may be involved.
- A procedure should also be prepared so that project management knows what to do in the unfortunate event that a worker ill with COVID-19 dies. While normal project procedures will continue to apply, COVID-19 may raise other issues because of the infectious nature of the disease. The project should liaise with the relevant local authorities to coordinate what should be done, including any reporting or other requirements under national law.

h. INSTANCES OR SPREAD OF THE VIRUS

WHO provides detailed advice on what should be done to treat a person who becomes sick or displays symptoms that could be associated with the COVID-19 virus (for further information see WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected). The project should set out risk-based procedures to be followed, with differentiated approaches based on case severity (mild, moderate, severe, critical) and risk factors (such as age, hypertension, diabetes) (for further information see WHO interim guidance on

operational considerations for case management of COVID-19 in health facility and community). These may include the following:

- If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on site.
- If testing is available on site, the worker should be tested on site. If a test is not available at site, the worker should be transported to the local health facilities to be tested (if testing is available).
- If the test is positive for COVID-19 or no testing is available, the worker should continue to be isolated. This will either be at the work site or at home. If at home, the worker should be transported to their home in transportation provided by the project.
- Extensive cleaning procedures with high-alcohol content disinfectant should be undertaken in the area where the worker was present, prior to any further work being undertaken in that area. Tools used by the worker should be cleaned using disinfectant and PPE disposed of.
- Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and be required to quarantine themselves for 14 days, even if they have no symptoms.
- Family and other close contacts of the worker should be required to quarantine themselves for 14 days, even if they have no symptoms.
- If a case of COVID-19 is confirmed in a worker on the site, visitors should be restricted from entering the site and worker groups should be isolated from each other as much as possible.
- If workers live at home and has a family member who has a confirmed or suspected case of COVID-19, the worker should quarantine themselves and not be allowed on the project site for 14 days, even if they have no symptoms.
- Workers should continue to be paid throughout periods of illness, isolation or quarantine, or if they are required to stop work, in accordance with national law.
- Medical care (whether on site or in a local hospital or clinic) required by a worker should be paid for by the employer.

i. CONTINUITY OF SUPPLIES AND PROJECT ACTIVITIES

Where COVID-19 occurs, either in the project site or the community, access to the project site may be restricted, and movement of supplies may be affected.

- Identify back-up individuals, in case key people within the project management team (PIU, Supervising Engineer, Contractor, sub-contractors) become ill, and communicate who these are so that people are aware of the arrangements that have been put in place.
- Document procedures, so that people know what they are, and are not reliant on one person's knowledge.
- Understand the supply chain for necessary supplies of energy, water, food, medical supplies and cleaning equipment, consider how it could be impacted, and what alternatives are available. Early pro-active review of international, regional and national supply chains, especially for those supplies that are critical for the project, is important (e.g. fuel, food, medical, cleaning and other essential supplies). Planning for a 1-2 month interruption of critical goods may be appropriate for projects in more remote areas.
- Place orders for/procure critical supplies. If not available, consider alternatives (where feasible).
- Consider existing security arrangements, and whether these will be adequate in the event of interruption to normal project operations.
- Consider at what point it may become necessary for the project to significantly reduce activities or to stop work completely, and what should be done to prepare for this, and to re-start work when it becomes possible or feasible.

j. TRAINING AND COMMUNICATION WITH WORKERS

Workers need to be provided with regular opportunities to understand their situation, and how they can best protect themselves, their families and the community. They should be made aware of the procedures that have been put in place by the project, and their own responsibilities in implementing them.

- It is important to be aware that in communities close to the site and amongst workers without access to project management, social media is likely to be a major source of information. This raises the importance of regular information and engagement with workers (e.g. through training, town halls, tool boxes) that emphasizes what management is doing to deal with the risks of COVID-19. Allaying fear is an important aspect of work force peace of mind and business continuity. Workers should be given an opportunity to ask questions, express their concerns, and make suggestions.
- Training of workers should be conducted regularly, as discussed in the sections above, providing workers with a clear understanding of how they are expected to behave and carry out their work duties.
- Training should address issues of discrimination or prejudice if a worker becomes ill and provide an understanding of the trajectory of the virus, where workers return to work.
- Training should cover all issues that would normally be required on the work site, including use of safety procedures, use of construction PPE, occupational health and safety issues, and code of conduct, taking into account that work practices may have been adjusted.
- Communications should be clear, based on fact and designed to be easily understood by workers, for example by displaying posters on handwashing and social distancing, and what to do if a worker displays symptoms.

k. COMMUNICATION AND CONTACT WITH THE COMMUNITY

Relations with the community should be carefully managed, with a focus on measures that are being implemented to safeguard both workers and the community. The community may be concerned about the presence of non-local workers, or the risks posed to the community by local workers presence on the project site. The project should set out risk-based procedures to be followed , which may reflect WHO guidance (for further information see WHO Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response). The following good practice should be considered:

- Communications should be clear, regular, based on fact and designed to be easily understood by community members.
- Communications should utilize available means. In most cases, face-to-face meetings with the community or community representatives will not be possible. Other forms of communication should be used; posters, pamphlets, radio, text message, electronic meetings. The means used should take into account the ability of different members of the community to access them, to make sure that communication reaches these groups.
- The community should be made aware of procedures put in place at site to address issues related to COVID-19. This should include all measures being implemented to limit or prohibit contact between workers and the community. These need to be communicated clearly, as some measures will have financial implications for the community (e.g. if workers are paying for lodging or using local facilities). The community should be made aware of the procedure for entry/exit to the site, the training being given to workers and the procedure that will be followed by the project if a worker becomes sick.

- If project representatives, contractors or workers are interacting with the community, they should practice social distancing and follow other COVID-19 guidance issued by relevant authorities, both national and international (e.g. WHO).

I. EMERGENCY POWERS AND LEGISLATION

Many Borrowers are enacting emergency legislation. The scope of such legislation, and the way it interacts with other legal requirements, will vary from country to country. Such legislation can cover a range of issues, for example:

- Declaring a public health emergency
- Authorizing the use of police or military in certain activities (e.g. enforcing curfews or restrictions on movement)
- Ordering certain categories of employees to work longer hours, not to take holiday or not to leave their job (e.g. health workers)
- Ordering non-essential workers to stay at home, for reduced pay or compulsory holiday

Except in exceptional circumstances (after referral to the World Bank's Operations Environmental and Social Review Committee (OESRC)), projects will need to follow emergency legislation to the extent that these are mandatory or advisable. It is important that the Borrower understands how mandatory requirements of the legislation will impact the project. Teams should require Borrowers (and in turn, Borrowers should request Contractors) to consider how the emergency legislation will impact the obligations of the Borrower set out in the legal agreement and the obligations set out in the construction contracts. Where the legislation requires a material departure from existing contractual obligations, this should be documented, setting out the relevant provisions.

ANNEX XV– LIST OF COVID-19 GUIDANCES

WHO GUIDANCE

ADVICE FOR THE PUBLIC

- WHO advice for the public, including on social distancing, respiratory hygiene, self-quarantine, and seeking medical advice, can be consulted on this WHO website: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public
- Country & Technical Guidance - Coronavirus disease (COVID-19): https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance

TECHNICAL GUIDANCE

- Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected, issued on March 19, 2020
- Recommendations to Member States to Improve Hygiene Practices, issued on April 1, 2020
- Severe Acute Respiratory Infections Treatment Center, issued on March 28, 2020
- Infection prevention and control at health care facilities (with a focus on settings with limited resources), issued in 2018
- Laboratory biosafety guidance related to coronavirus disease 2019 (COVID-19), issued on March 18, 2020
- Laboratory Biosafety Manual, 3rd edition, issued in 2014
- Laboratory testing for COVID-19, including specimen collection and shipment, issued on March 19, 2020
- Prioritized Laboratory Testing Strategy According to 4Cs Transmission Scenarios, issued on March 21, 2020
- Infection Prevention and Control for the safe management of a dead body in the context of COVID-19, issued on March 24, 2020
- Key considerations for repatriation and quarantine of travelers in relation to the outbreak COVID-19, issued on February 11, 2020
- Preparedness, prevention and control of COVID-19 for refugees and migrants in non-camp settings, issued on April 17, 2020
- Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health, issued on March 18, 2020
- Oxygen sources and distribution for COVID-19 treatment centers, issued on April 4, 2020
- Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response, issued on March 16, 2020
- Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19), issued on March 19, 2020
- Operational considerations for case management of COVID-19 in health facility and community, issued on March 19, 2020
- Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19), issued on February 27, 2020
- Getting your workplace ready for COVID-19, issued on March 19, 2020
- Water, sanitation, hygiene and waste management for COVID-19, issued on March 19, 2020
- Safe management of wastes from health-care activities, issued in 2014
- Advice on the use of masks in the community, during home care and in healthcare settings in the context of the novel coronavirus (COVID-19) outbreak, issued on March 19, 2020
- Disability Considerations during the COVID-19 outbreak, issued on March 26, 2020

WORLD BANK GROUP GUIDANCE

- Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings, issued on March 20, 2020
- Technical Note: Use of Military Forces to Assist in COVID-19 Operations, issued on March 25, 2020

- ESF/Safeguards Interim Note: COVID-19 Considerations in Construction/Civil Works Projects, issued on April 7, 2020
- Technical Note on SEA/H for HNP COVID Response Operations, issued in March 2020
- Interim Advice for IFC Clients on Preventing and Managing Health Risks of COVID-19 in the Workplace, issued on April 6, 2020
- Interim Advice for IFC Clients on Supporting Workers in the Context of COVID-19, issued on April 6, 2020
- IFC Tip Sheet for Company Leadership on Crisis Response: Facing the COVID-19 Pandemic, issued on April 6, 2020
- WBG EHS Guidelines for Healthcare Facilities, issued on April 30, 2007

ILO GUIDANCE

- ILO Standards and COVID-19 FAQ, issued on March 23, 2020 (provides a compilation of answers to most frequently asked questions related to international labor standards and COVID-19)

CROATIAN GUIDANCE:

- Croatian Institute for Public Health: https://www.hzjz.hr/sluzba-epidemiologija-zarazne-bolesti/koronavirus-najnovije-preporuke/

- Civil Protection Headquarters of the Republic of Croatia: https://civilna-zastita.gov.hr/vijesti/preporuke-za-kucanstva-i-ostale-zatvorene-prostore/2289

- Ministry of Labor and Pension System: INSTRUCTIONS for the implementation of safety and health protection measures at work during the execution of construction works on the rehabilitation of facilities : http://uznr.mrms.hr/wp-content/uploads/2020/04/uputa_za_gradilista_2020.pdf

- INSTRUCTIONS FOR EMPLOYERS AND WORKERS for conducting and implementation of safety and health measures in circumstances of risk of infectious disease Covide-19: https://mrms.gov.hr/UserDocsImages/dokumenti/Uprava%20za%20rad/UPUTA%20ZA%20POSLODAVCE%20I%20RADNIKE_COVID%2019_letak-travanj_2020.pdf

- Government of the Republic of Croatia: https://koronavirus.hr/en

ANNEX XVI – MINUTES OF MEETING FOR THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Public consultation process for ESMF for **Component 2: Public Health Surveillance and Preparedness** started on January 5, 2021. The draft version of the ESMF was disclosed on Ministry of Physical Planning, Construction and State Assets web site, and also was available in hard copy at its premises (Ulica Republike Austrije 20, 10 000 Zagreb), until January 22, 2021.

Notification for public consultation process and public consultations meeting was published in Croatian language:

https://mgipu.gov.hr/pristup-informacijama/savjetovanje-s-javnoscu-8116/otvorena-savjetovanja/esmf-za-komponentu-1-i-esmf-za-komponentu-2/11355

https://mgipu.gov.hr/pristup-informacijama/financijski-dokumenti/5-1-2021-poziv-na-javno-savjetovanje-o-okviru-za-upravljanje-okolisnim-i-socijalnim-pitanjima-eng-environmental-and-social-management-framework/11356

Also, the draft version of the ESMF was disclosed on Ministry of Health web site, and also was available in hard copy at its premises (Ksaver 200a, 10000, Zagreb), until January 22, 2021.

Notification for public consultation process and public consultations meeting was published in Croatian language:

https://zdravlje.gov.hr/programi-i-projekti/medjunarodni-projekti-i-eu-fondovi/svjetska-banka/1529

In addition, via e-mail, Ministry of Physical Planning, Construction and State Assets informed and invited to participate in consultation process and public consultation meeting following institutions:

Name of the institution	E-mail
City of Zagreb	info-graditeljstvo-izgradnja@zagreb.hr; zastita.spomenika@zagreb.hr; gospodarstvo@zagreb.hr gospodarstvo@zagreb.hr
Croatian Chamber of Architects	arhitekti@arhitekti-hka.hr; info@arhitekti-hka.hr
Croatian Chamber Of Civil Engineers.	info@hkig.hr
Croatian Conservation Institute'	divic@hrz.hr
Directorate of civil protection	ured@civilna-zaštita.hr
Energy Efficiency and Environmental Protection Fund	kontakt@fzoeu.hr
Krapina-Zagorje County	ured.zupana@kzz.hr
Ministry of Culture and Media	pisarnica@min-kulture.hr; press@min-kulture.hr
Ministry of Economy and Sustainable Development	press@mingor.hr;
Ministry of Finance	kabinet@mfin.hr
Ministry of Interior	press@mup.hr; ured@civilna-zastita.hr
Ministry of Labour, Pension System, Family and Social Policy	kabinet@mrms.hr
Ministry of Regional Development and EU Funds	press@mrrfeu.hr
Ministry of Science and Education	kabinet@mzo.hr;
Nature Park Medvednica	info@pp-medvednica.hr
State Inspectorate	press@dirh.hr
Zagrebačka County	ppi@zagrebacka-zupanija.hr; uo-prostor@zagrebacka-zupanija.hr

Public consultation meeting was held on January 21, 2021.

The meeting started at 11 a.m.

Public consultation meeting was organised jointly for ESMF for Component 1: Earthquake Recovery and Reconstruction project and ESMF for Component 2: Public Health Surveillance and Preparedness.

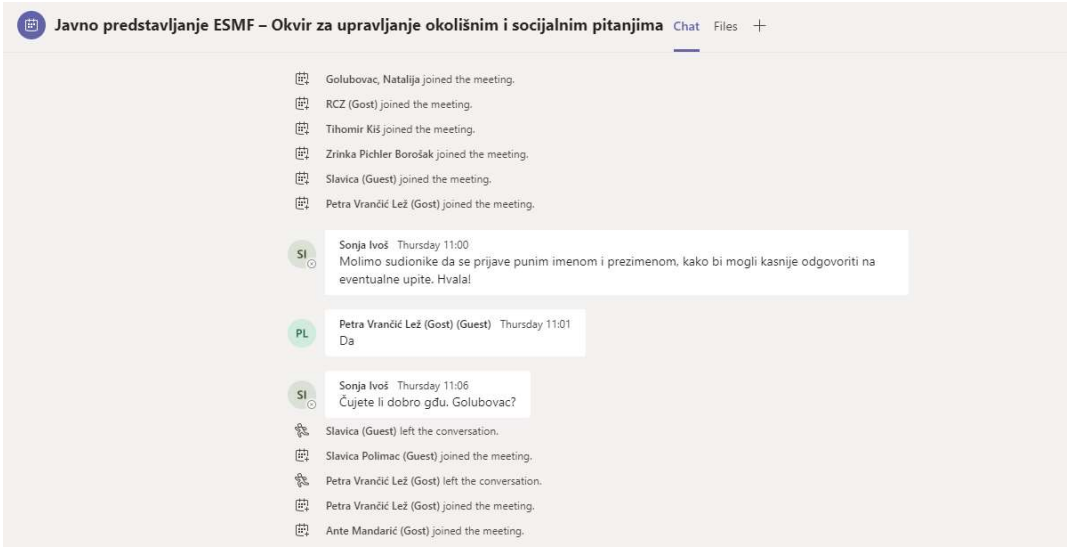
Due to COVID 19 situation and measures in force in Croatia regarding public gatherings public consultation meeting vas virtual.

At the public consultation meeting following representatives from Ministry of Physical Planning, Construction and State Assets were present: Mr. Davorin Oršanić, Ms. Snežana Penović and Ms. Sonja Ivoš.

In front of Ministry of Health, Ms Slavica Polimac was present.

List of attendees that joined public consultation meeting via Microsoft Teams video conferencing platform:

- Tihomir Kiš;
- Zrinka Pichler Borošak
- RCZ (Guest)
- Branimir Bradičić
- Petra Vrančić Lež
- Ante Mandarić.



At the beginning of the meeting Mr Oršanić welcomed all participants and presented basic information about the project *Croatia Earthquake Recovery And Public Health Preparedness Project*. Then, Ms Natalija Golubovac, environmental and social specialist, presented the ESMF documents starting with purpose, approach and importance of preparation of ESMF documents. Identified project environmental and social risks and potential impacts were presented, as well as instruments and measures for their mitigation and or/elimination. Also, project set up was presented and Project Grievance Redress Mechanism (FGRM) and the World Bank Grievance Redress Service (GRS).

After presentation attendees did not have any questions and comments.

During the consultation period no comments were received on ESMF nor electronically nor via hard copy.