Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Bonifacio Drive, Port Area, Manila

Philippines Seismic Risk Reduction and Resilience Project (PSRRRP)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

December 2020

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ABBREVIATIONS AND ACRONYMS

μg/Ncm	-	Microgram per normal cubic meter
ACI	-	American Concrete Institute
AISC	-	American Institute for Steel Construction
BOC	-	Bureau of Construction
BOD	-	Bureau of Design
BOM	-	Bureau of Maintenance
CCO	-	Chemical Control Order
CERC	-	Contingent Emergency Response Component
CFP	-	Chance find procedure
CNC	-	Certificate of Non-Coverage
CSC	-	Civil Service Commission
CSHP	-	Construction Safety and Health Program
dB	-	decibels
DBM	-	Department of Budget and Management
DED	-	Detailed engineering design
DENR	-	Department of Environment and Natural Resources
DEO	-	District Engineering Office
DepEd	-	Department of Education
DICT	-	Department of Information and Communications Technology
DOH	-	Department of Health
DOLE	-	Department of Labor and Employment
DOST	-	Department of Science and Technology
DPWH	-	Department of Public Works and Highways
ECC	-	Environmental Compliance Certificate
ECOP	-	Environmental Code of Practice
EHS	-	Environment, health and safety officer
EIA	-	Environmental impact assessment
EIS	-	Environmental Impact Statement
EMB	-	Environmental Management Bureau
EOC	-	Emergency Operation Center
EPRMP	-	Environmental Performance Report and Management Plan
ESA	-	Environmental and Social Assessment
ESF	-	World Bank's Environment and Social Framework
ESMF	-	Environmental and Social Management Framework
ESMP	-	Environmental and social management plan
ESS	-	Environmental and social standards
FEMA	-	United States Federal Emergency Agency
FM	-	Financial management
FRP	-	Fiber reinforced polymer
GB	-	Green building
GBV	-	Gender-based violence
GEMP	-	Government Energy Management Program
GMMA	-	Greater Metro Manila Area
GRC	-	Grievance redress committee
GRM	-	Grievance redress mechanism
IAEECC	-	Inter-Agency Energy Efficiency and Conservation Committee

IEE	-	Initial Environmental Examination
IO	-	Implementing office (Regional or District Engineering Office)
ITCZ	-	Inter-tropical convergence zone
Km	-	kilometer
LGU	-	Local government unit
LMP	-	Labor Management Plan
MCE	-	Maximum considered earthquake
MMEIRS	-	Metropolitan Manila Earthquake Impact Reduction Study
MOA	-	Memorandum of Agreement
NCCA	-	National Commission for Culture and the Arts
NCCAP	-	National Climate Change Action Plan
NEDA	-	National Economic Development Authority
NGO	-	Non-government organization
nmi	-	Nautical miles
NO_2	-	Nitrogen dioxide
NSCP	-	National Structural Code of the Philippines (2015)
NSFCC	-	National Framework Strategy on Climate Change
OCD	-	Office of Civil Defense
OMYP	-	Oplan Metro Yakal Plus
PCMA	-	DPWH's online monitoring through Project Contract Management Application
PCO	-	Pollution control officer
PD	-	Presidential Decree
PDP	-	Philippine Development Plan
PEISS	-	Philippine Environmental Impact Statement System (Presidential Decree 1586)
PFZ	-	Philippine Fault Zone
PHIVOLCS	-	Philippine Institute of Volcanology and Seismology
PIU	-	Project Implementation Unit
PM	-	Particulate matter
PMO-ERG	-	Project Management Office for Earthquake Resilience of Greater Metro Manila
POM	-	Project Operations Manual
PPE	-	Personal protective equipment
PSRRRP	-	Philippine Seismic Risk Reduction and Resiliency Project
PWDs	-	Persons with disabilities
QRA	-	Quick response assets
RA	-	Republic Act
RA	-	Republic Act
RAP	-	Risk Assessment Project
RC	-	Reinforced concrete
RVS	-	Rapid visual screening
SEP	-	Stakeholder Engagement Plan
SO_2	-	Sufur dioxide
SVR	-	Seismic Vulnerability Rating
TOR	-	Terms of reference
TWG	-	Technical working group
UP-ICE	-	University of the Philippines Institute of Civil Engineering
VFS	-	Valley fault system
WASH	-	Water, sanitation and health facilities
WMP	-	Waste management plan

I. BACKGROUND

The Philippines is located at the confluence of the "Pacific Ring of Fire" and the Pacific Cyclone Belt. At least 60% of the country's total land area is exposed to multiple hazards such as frequent earthquakes, floods, tsunami, landslides, volcanic eruptions, cyclones and annual monsoons. Metro Manila, the seat of government and the country's population, economic, and cultural center, is one of the most vulnerable areas in the Philippines when it comes to seismic and natural hazards. The Metropolitan Manila Earthquake Impact Reduction Study (MMEIRS) in 2004 concluded that the possible movement of the West Valley Fault poses a tremendous threat of a potentially catastrophic earthquake of up to 7.2 magnitude in Metro Manila. In addition to frequent earthquakes and volcanic eruptions, an average of 20 tropical cyclones (typhoons) enters the Philippine Area of Responsibility every year. The impacts of climate-related events have been increasing, and over the last decade, typhoons making landfall have increased in intensity.

Rapid urbanization has resulted in an extremely dense agglomeration of vulnerable infrastructure, buildings, and housing in Metro Manila. The MMEIRS and Enhancing Risk Analysis Capacities for Flood, Tropical Cyclone, Severe Wind and Earthquake for the Greater Metro Manila Area (GMMA RAP, 2014)[1] estimated that the scenario impacts of "The Big One" in Metro Manila alone are: 31,228 fatalities, approximately 510,000 injuries ranging from slight to life-threatening; approximately 261 million square meters of property damage ranging from slight to complete collapse; 500 fire incidents; and an estimated financial loss of around 2.3 trillion pesos (based on 2013 asset exposures). Considering population and economic growth in the intervening years since the GMMA RAP study, the overall risk can be expected to have increased significantly.

Recognizing the tremendous threat of a potentially catastrophic earthquake in GMMA and the country's susceptibility to natural hazards, the Government of the Philippines underscores the need to address vulnerabilities to natural hazards in order to sustain economic growth and development. The Philippine Development Plan (PDP) 2017-2022 identified risk assessment and reducing disaster vulnerability as key activities that includes making public infrastructure more resilient to earthquakes and building preparedness capacity for compounding disasters.

The *Philippines Seismic Risk Reduction and Resiliency Project (PSRRRP)* which will be financed by the World Bank aims to enhance the safety and seismic resilience of selected public buildings and facilities in Metro Manila. Through structural strengthening and functional upgrade of public buildings, selected and prioritized based on a transparent, well designed, cost-effective approach to retrofitting that will contribute to an overall reduction of the estimated impacts of earthquakes (particularly 'The Big One' scenario) on the portfolio of critical public facilities.

A. PROJECT DEVELOPMENT OBJECTIVES

The PSRRRP has the following Project Development Objectives:

- Enhance the safety and seismic resilience of selected public buildings and facilities in Metro Manila and
- Enhance the capacity of the DPWH to prepare for and respond to emergencies.

[1] PHIVOLCS, and Geoscience Australia. 2014. Greater Metro Manila Risk Assessment Program.

The above objectives will be achieved through structural strengthening and functional upgrade of public buildings that will contribute to an overall reduction of the estimated impacts of earthquakes (particularly 'The Big One' scenario) on the portfolio of critical public facilities. The project will also support key investments to strengthen the DPWH's emergency preparedness and response capabilities and capacities, specifically in relation to the agency's mandate under the Metro Manila Earthquake Contingency Plan (Oplan Metro Yakal Plus), as well as DPWH's associated plans for Public Service Continuity and Equipment Positioning and Mobilization for the 'Big One'.

B. PURPOSE OF THE ESMF

This Environmental and Social Management Framework (ESMF) has been prepared to assess and manage the environmental and social risks and impacts of the PSRRRP. The framework has been prepared since the project involves series of subprojects whose specific locations, detailed design, and relevant information are not yet known until implementation. The ESMF serves as a tool for environmental and social assessment process to be undertaken once the respective technical details of the subprojects are available.

This framework provides guidance to the DPWH and its responsible units to ensure that environmental and social assessments and other safeguard requirements will be carried out in compliance with national regulations and in accordance with the World Bank's Environment and Social Framework (ESF). The ESMF also provides guidance on the preparation of location specific Environmental and Social Management Plans (ESMPs), and Environmental Code of Practice (ECoP) when necessary, in accordance with the ESF. This ESMF will be an integral part of the Project Operations Manual (POM).

Specifically, the following are the objectives of the ESMF:

- To identify, minimize or avoid adverse impacts on the health and safety of project stakeholders, project-affected persons/communities and project workers during implementation;
- To promote quality and safety in the design and construction of infrastructures;
- To avoid or minimize community exposure to project-related safety risks;
- To avoid possible exposure and risks of workers and communities to communicable diseases, criminality and gender-based violence during project implementation;
- To develop measures to address emergency events; and
- To specify a process of public participation and consultation in the planning and implementation of the project.

C. METHODOLOGY

The framework has been prepared based on the environmental and social due diligence and site visits to similar ongoing retrofit projects, interviews and meetings with key stakeholder agencies such as DPWH, Department of Education (DepEd), Department of Health (DOH), Philippine Institute of Volcanology and Seismology (PHIVOLCS), University of the Philippines Institute of Civil Engineering (UP-ICE) and relevant bureaus/units of DPWH such as the Project Management Office for Earthquake Resilience of Greater Metro Manila (PMO-ERG), Bureau of Design (BOD), Bureau of Construction (BOC), Bureau of Maintenance (BOM), and the DPWH-National Capital Region. The ESMF builds on the experience and procedure of DPWH in retrofitting different types of public buildings which is being implemented through the agency's

retrofitting program and using its own budget under Memoranda of Agreement (MOA) with the DepEd and DOH as asset owners. The site visits focused on key aspects of: (i) assessment of spectrum of retrofit interventions and (ii) stakeholder engagement, including measures currently being implemented to minimize disruption to occupants.

D. SCOPE OF THE ESMF

The framework presents criteria and procedures to manage the environmental and social impacts of civil works activities under Component 1 on the structural retrofitting and functional improvements of about 425 low- and mid-rise school buildings and health facilities to be selected after applying the eligibility criteria and prioritization framework. The ESMF also applies to Component 2 on the operation of equipment and tools for transport and mobility restoration and Component 3 Project Management to determine positive and negative impacts of associated activities and the need to provide institutional strengthening and capacity building programs to integrate safeguards management requirements. Under Component 3, the ESMF describes the types of safeguards due diligence needed on the CERC activities and a positive and negative list of CERC activities.

The ESMF contains the following:

a) Description of the proposed activities to be financed under the Project;
b) Requirements and procedures that will be followed for screening of subprojects and the requirements for environmental and social assessment;
c) Anticipated environmental and social risks and impacts of project components and activities;
d) Implementation procedures for further assessing and managing the risks and impacts of Project activities;
e) Environmental and social management plan (ESMP), Environmental Code of Practice (ECoP), guidelines and other plans addressing significant risks and impacts as identified in the environmental and social assessment;
f) Compliance monitoring and reporting requirements;
g) Description of institutional responsibilities for the preparation, implementation, and progress review of the ESMP; and
h) Overview of the capacity of DPWH to implement the national regulations on safeguards and WB ESF and identified needs for capacity building in relation to managing environment and social risks and impacts of the Project.

The ESMF also provides a negative list that will include infrastructure investments with large-scale irreversible environmental or social impacts, including subprojects located in critical habitats, culturally- or socially-sensitive areas or subprojects involving issues on land acquisition and involuntary resettlement. These subprojects will not be supported under the Project.

II. PROJECT DESCRIPTION

A. PROJECT COMPONENTS

The PSRRRP has four components: (1) Improving Multi-Hazard Resilience of Public Buildings and Facilities, (2) Improving Emergency Preparedness and Response in Public Works, (3) Project Management, and (4) Contingency Emergency Response. These are described as follows:

- **Component 1: Improving Multi-hazard Resilience of Public Buildings and Facilities (US$245 million)**

  This component will finance seismic retrofitting and relevant strengthening/upgrades of public buildings such as schools and health facilities that have been affected by damage from natural hazards such as earthquakes and other adverse geophysical and climate-related events. Schools buildings[2] are two-to four-storeys reinforced concrete structures while the health centers are Category A primary care facilities that offers basic emergency services and out-patient health services. The health centers are typically one- to two-storeys reinforced concrete structures located within communities.

  Sub-component 1.1: Retrofitting of Public Buildings

  Approximately 425 school buildings and health centers in Metro Manila are proposed for seismic retrofit and other structural/functional improvements over the five-year implementation period. The eligible buildings will be prioritized through the Seismic Vulnerability Rating (SVR) framework that looks at rapid visual screening and factors such as rapid visual screening from FEMA 154 version 2002 (site seismicity, structural type, structural height, geometric non-regulatory, vintage of construction, soil type); proximity to a known fault line; liquefaction potential; year of construction; type of occupancy; and number of occupants. The SVR is derived by taking the weighted sum of the factors. Figure 1 presents the map of eligible buildings for seismic retrofitting under the Metro Manila Seismic Risk Reduction and Resiliency Project.

  In the detailed design, climate change impacts and the effects of multiple site-specific hazards are considered using the DOST-PHIVOLCS GeoRiskPH platform to assess exposure to seismic, climatic/hydro-meteorological, volcanic, and other prevalent hazards. Where appropriate, a multi-hazard intervention approach for the facility (e.g. site drainage to reduce localized flooding) will be developed. The structural and functional upgrades will ensure overall compliance with relevant design standards and Philippine building and safety regulations that includes structural retrofitting (steel plate bonding, concrete and steel jacketing, use of fiber reinforced polymer systems, and steel bracing systems, as appropriate), climate-resilient design and strengthening roofs and windows to consider typhoon-related wind loads, fastening of non-structural elements like ceilings, partitions and equipment that can constitute falling hazards, improvement of ingress and egress, fire safety measures, provision of access for persons with disabilities, WASH, COVID-related functional measures, and other related improvements to facilitate service continuity of the facilities.

[2] Public school buildings in the Philippines average about 40-50 students per classroom and have two shifts of classes per day.

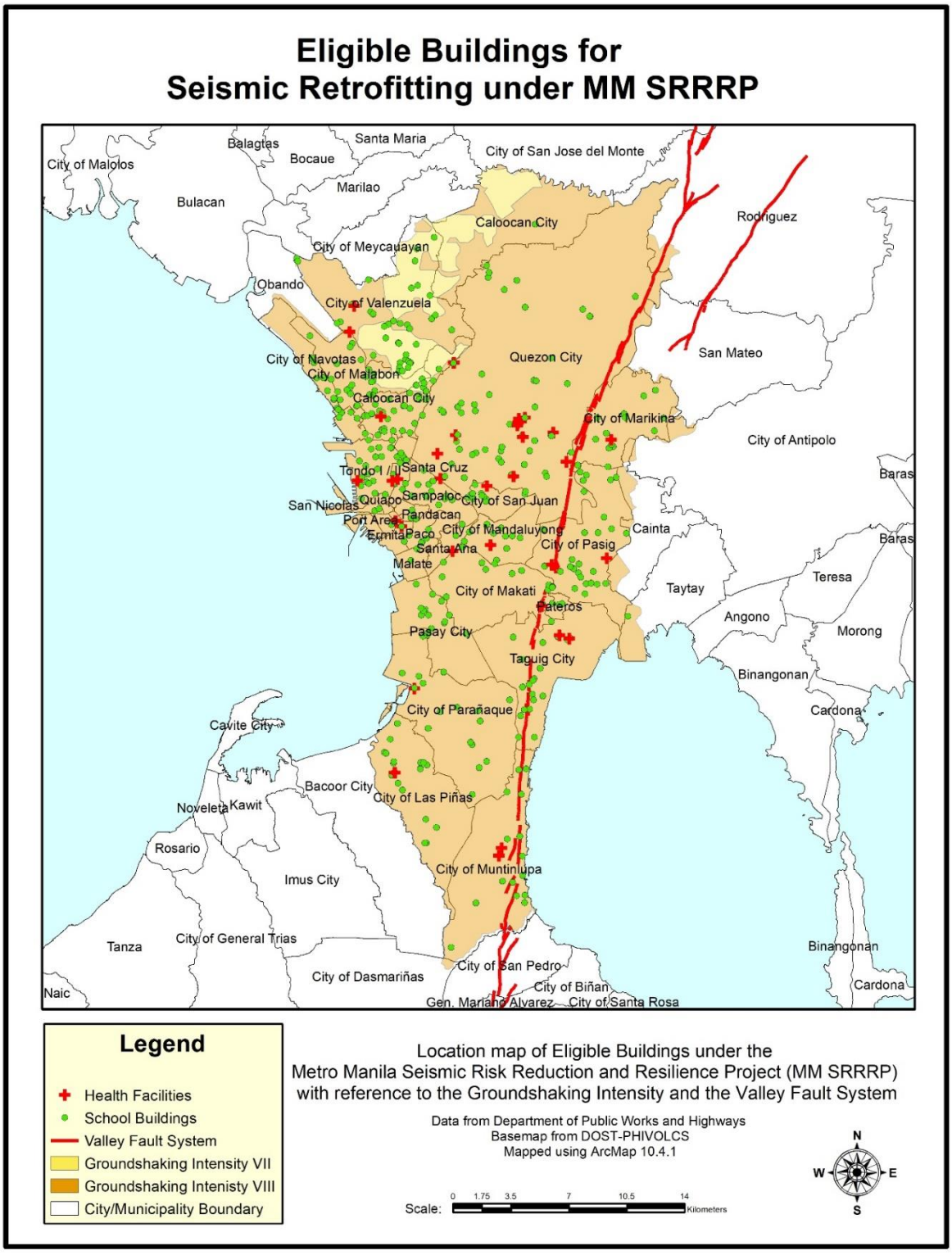


Figure 1: Map of Eligible Buildings

This component will also finance consulting services for detailed building-level structural condition assessments, geotechnical and other site investigations, feasibility design studies, detailed engineering design (incorporating multi-hazard resilience measures as appropriate to site-specific exposures), and design reviews. Construction quality assurance including oversight of implementation of retrofit techniques and contractors' environmental and social management plans will also be included under this component.

- **Component 2: Improving Emergency Preparedness and Response for Public Works (US52 million)**

This component will finance mission-essential equipment for transport and mobility restoration and communication to improve response time for responders and rescuers to reach affected areas and ensure communities' rapid access to critical public services. The component will finance the capacity building activities for the DPWH to systematically prepare for and respond to emergencies (recurrent annual events as well as low-frequency, high impact disasters), particularly in line with the agency's mandate under Executive Order No. 52 and Oplan Metro Yakal Plus (OMYP) as lead agency for Engineering, Reconstruction, and Rehabilitation as well as other national emergency response plans for multiple hazards such as those related to climate and public health.

Sub-component 2.1: Emergency Response Equipment for Transport and Mobility Restoration, and Communication

This sub-component will support mission-essential equipment for transport & mobility restoration (which would be staged strategically in and around Metro Manila, in relatively less hazardous locations), as well as critical communication and information management systems, to ensure proper execution of response operations and coordination of DPWH's emergency response teams. Operation and maintenance costs for the equipment will be covered by national government counterpart funding (US$9.5 million over the project implementation period).

Heavy equipment such as cargo truck, hydraulic excavator, all terrain hydraulic crane, prime mover, road grader with ripper, landing craft tank, multi-purpose self-propelled barges, including logistics, resources and supplies such as tents with portable toilets and fire-fighting equipment, are vital to enable DPWH to immediately undertake road and bridge access restoration and debris clearing operations and in deploying search and rescue operations.

This component will also include mobile emergency communications systems (Emergency Operation Centers or EOCs) which would provide a platform for coordinating operations and communications. The mobile EOCs, in conjunction with DPWH's ongoing communication system upgrade, would provide two critical capabilities: (i) the ability to command and manage operations from a mobile site, and (ii) the ability to continue uninterrupted field communications with deployed resources (including the transport and mobility restoration equipment to be supported under the project).

The proposed investments under this project will provide DPWH with a capability that allows the agency to have reliable, redundant communication systems. The DPWH Information Management Service has coordinated on requirements for a system that would be compatible with those currently in place within the Office of Civil Defense (OCD) and other organizations with response roles during an earthquake such as the Department of Information and Communications Technology (DICT). This interoperability allows all response agencies to communicate with each other; a critical feature of effective emergency response operations.

Sub-component 2.2: Capacity building for Emergency Preparedness and Response in Public Works

This sub-component will focus on three main activities: (i) developing, updating, and harmonizing plans, policies, and procedures based on a reference scenario (in this case, aligning with 'The Big One' scenario underpinning OMYP and other relevant national plans); (ii) organizing, training, and equipping DPWH personnel to implement the plan(s) based on the increase in capability; and (iii) exercising the plan(s) in order to further improve capability.

Planning, training, and exercises will be conducted over the life of the project to ensure continuity of capacities and capabilities within DPWH. These activities will include Training of Trainers programs as well as building capacity for designing, implementing, and evaluating drills and exercises to ensure that DPWH will be able to maintain this function within the agency. Finally, planning, training, and exercises will be designed to support the operation of the equipment for transport and mobility restoration procured under sub-component 2.1.

- **Component 3: Project Management (US$3 million)**

This component focuses on strengthening DPWH's organizational and technical capacity to manage and implement long term seismic risk reduction programs for public buildings/facilities and infrastructure. The component will finance technical specialist consultants and administrative support for the Project Implementation Unit (PIU) to effectively manage key functions including planning, coordination, financial management (FM), procurement, environmental and social safeguards implementation, and monitoring throughout the project implementation period. More specifically, this component will enable the PIU to carry out: (i) contract administration, safeguards, fiduciary, training, and monitoring and evaluation[3], (ii) citizen engagement and communications, including consultations and information sessions for disaster risk reduction at each facility to be intervened under Component 1, and (iii) incremental project operating cost.

Fiduciary and safeguards functions will be carried out by designated DPWH staff, through institutionalized procurement, finance, accounting, and safeguards units that perform these functions for World Bank (and other development partner) funded projects.

The component will also invest directly in citizen engagement and social awareness activities to ensure that the physical investments are properly communicated to the direct beneficiaries of the buildings. These activities will focus on organizing: (i) information meetings on the long-term benefits of seismic retrofitting – including management of expectations that the interventions are intended to significantly reduce fatalities and severe casualties, but not completely prevent all damage -- targeting building users, and administrators, and (ii) consultations with building occupants on the scheduling and programming of civil works.

- **Component 4: Contingent Emergency Response (zero allocation)**

The Contingent Emergency Response Component (CERC) would allow for rapid reallocation of uncommitted project funds to support immediate response and recovery needs in the event of a

[3] All site investigation, detailed design, reviews, and construction quality assurance are provisioned under Component 1.

natural disaster or public health emergency with similar needs and activities to support the immediate response and recovery requirements. Such events may include typhoons, floods, earthquakes, volcanic eruptions, droughts, and disease outbreaks. The level of evidence needed to activate this component will include, but not limited to issuances such as the declaration of a State of Calamity by mandated national or subnational authority, or a State of Public Health Emergency. The agreed trigger would enable reallocation of uncommitted project funds to support immediate response and recovery needs from other project components. Disbursements would be made against a positive list of critical goods or the procurement of works, and consulting services required to support the immediate response and recovery needs.

The potential CERC-financed activities should: (i) be aligned with the main project activities as well as the scope of the Project Development Objective, (ii) follow the project's implementation arrangements, and (iii) be based on DPWH's mandate under the various emergency response and contingency plans.

Since activation of the CERC for emergency activities outside of the geographical scope of the project or sector (Public Works) cannot be ruled out, and where the measures included in this ESMF do not fit the new activities of the activated CERC, an Addendum to the ESMF would be prepared with the situation-specific environmental and social risk assessment and management measures. In such a case, the Addendum should be prepared prior to CERC activation and cover the new activities financed by the CERC in line with the Emergency Action Plan prepared for the CERC[4]. In all circumstances, the ESMF provisions will be reflected in the CERC Annex to the Project Operations Manual that will be prepared to provide information on the: (i) mechanism for activating the CERC; (ii) main instruments under the CERC (e.g., Rapid Needs Assessment, and Emergency Action Plan); (ii) coordination and implementation arrangements; (iii) procurement, financial management and disbursement aspects; (v) compliance with safeguard policies; and (vi) monitoring and evaluation. In relation to the ESMF provisions, the CERC annex will describe the type of activities eligible for support in response to the emergency and their environmental and social risks and management measures as well as a negative list of activities categorically excluded from support under the activated CERC.

B. OVERVIEW OF BUILDINGS UNDER THE RETROFITTING PROGRAM

The DPWH will apply a selection and prioritization criteria to identify batches of public buildings (schools and health facilities) that will be subject to detailed seismic assessment and corresponding design for upgrade or retrofit. Candidate buildings that are nominated by the user / owner agencies will be subjected to rapid visual assessment to further streamline those that may be considered as eligible buildings for detailed assessment after which a batch of selected buildings are identified and prioritized annually under the public building retrofitting program.

There will be approximately 425 priority buildings to undergo retrofitting and other structural/functional improvements under the Project based on the SVR framework. All of the building types fall under the C1 and C2 (C - Commercial building) category (typical mid-rise reinforced concrete moment-resisting frame building) under the US FEMA (Federal Emergency Management Agency) 154 classification report (*FEMA 154 Report, Rapid Visual Screening of Buildings for Potential Seismic Hazards: A Handbook (FEMA,*

[4] The Emergency Action Plan will identify specifically what the CERC will finance and be consistent with the positive list in the CERC annex and based on a rapid needs assessment or acceptable report as described in the CERC annex.

2002a). Schools are Type IV based on DepEd category with number of floors ranging from 2 storeys to a maximum of 6 storeys. Based on the preliminary list of priority buildings, majority were built from the period 1970 – 2014. About 40% were built in the 1940s to 1970s while there are buildings that were constructed as old as 1919. The floor area of the school buildings ranges from 42 m^2 to about 12,000 m^2.[5] The cost of retrofitting per m^2 may range widely from Php1,468 per m^2 for reinforced-concrete building to be retrofitted by steel bracing of the overall structural frames to Php15,254 per m^2 for reinforced-concrete building that is retrofitted by steel jacketing for individual structural columns and girders.[6]

For purposes of the identifying the environmental and social impacts of the Project, discussed below are the different types of building retrofitting works that may be implemented and the related activities involved.

C. TYPE OF BUILDING RETROFITTING WORKS

The Feasibility Study, which analyzed five representative buildings retrofitted under DPWH's 2018-2020 program (of differing vintages, building types, and number of storeys), sets forth the rationale for the selected technical approach/retrofitting methods that would be deployed under the project. Detailed field investigation will be conducted to determine the building condition and the material strength by conducting concrete coring, rebound hammer, rebar scanning, and rebar extraction. Geotechnical investigation, structural analysis and demand and capacity analysis will be also be conducted. The following are descriptions of typical retrofitting methods that would be utilized following structural investigation of structures, site surveys, and structural analyses.

a) Steel Plate Bonding. Steel plate is one of the most common materials for strengthening of reinforced concrete beams and is very effective in increasing the flexural and shear capacity of these structural members. The most common form of plating is to glue steel plates to the tension faces of beams. This is done after surface preparation of existing beam and the steel plate for composite action between the plate, glue, and concrete.

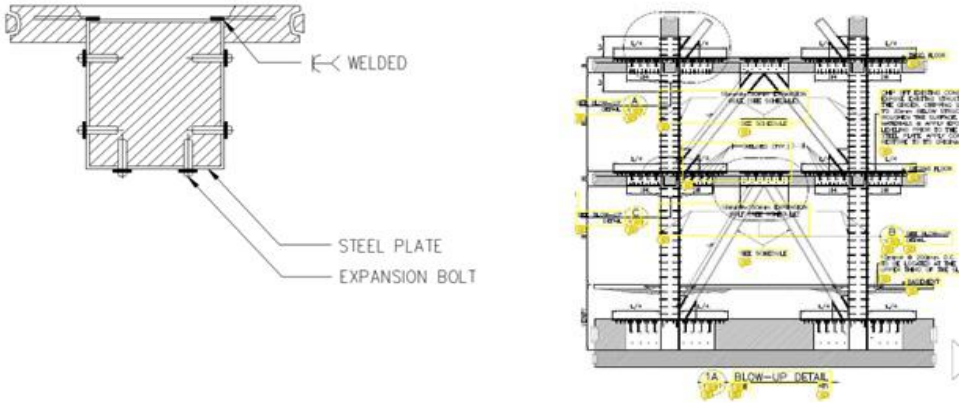


Figure 2: Typical Detail of Steel Plate Bonding

[5] Information is based on the list of buildings from DPWH that were subjected to cost-benefit analysis under the PSRRRP. October 2020.

[6] UP National Engineering Center. Seismic Risk Reduction and Resilience Project. Report A. May 2020

b) Concrete Jacketing. This method is used for poorly detailed or damaged reinforced concrete (RC) members whereby RC jackets are applied around the structural elements. The RC jackets provide increase strength, stiffness, and overall enhancement of structural performance. This is frequently used prior to or after damage of RC members such as beams, columns, and joints. Shotcrete overlay is used on the surface of an existing RC member with an outer assembled reinforcement cage. Shotcrete jacketing can be used in lieu of conventional cast-in-place concrete jackets because of its potential to achieve good bond strength and low permeability. It is also known that the shotcrete process is more versatile than common concrete placement and can be applied in very difficult or complex sections where conventional concrete formwork would prove difficult, cost-prohibitive, or even impossible.

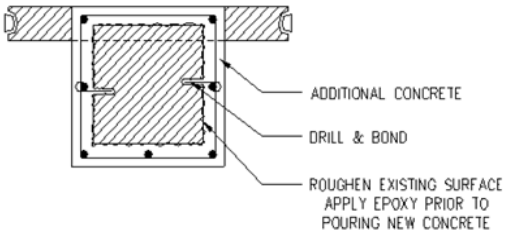
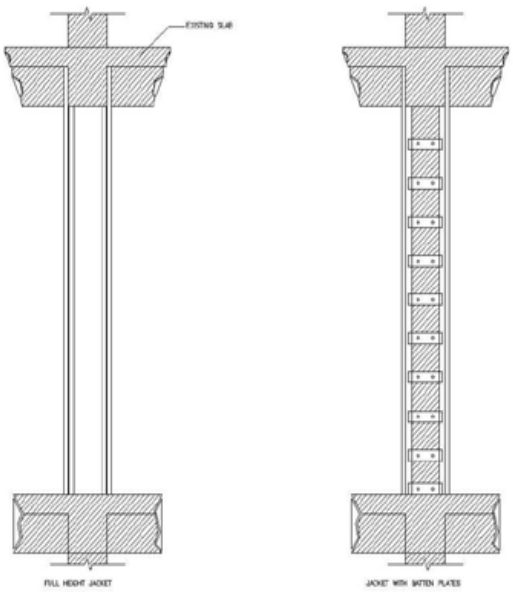
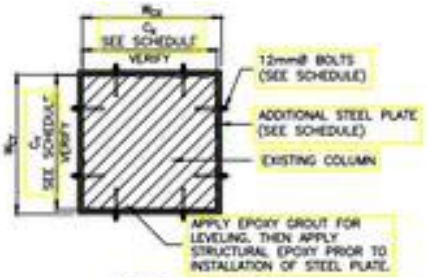


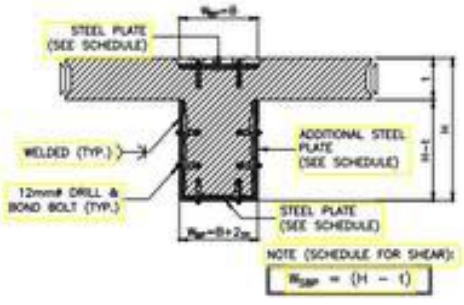
Figure 3: Concrete Jacketing

c) Steel Jacketing. This method uses a layer of steel plate placed over the reinforced concrete column or beam, resulting in a significant increase in stiffness or the structural element.





Steel Jacketing for Column



Steel Jacketing for Beam

Figure 4: Steel Jacketing

d) Fiber Reinforced Polymer (FRP) Systems. The FRP materials are composed of high-strength fibers embedded in a polymeric matrix. The fibers (which have very small diameters and are considered continuous) provide the strength and stiffness of the composite, while the matrix separates and disperses the fibers. In concrete strengthening applications, the fibers are typically carbon (graphite), glass, or aramid, and the matrices are typically epoxy. FRP is extremely versatile and is quickly and easily installed, reducing the downtime and disruption during retrofit.

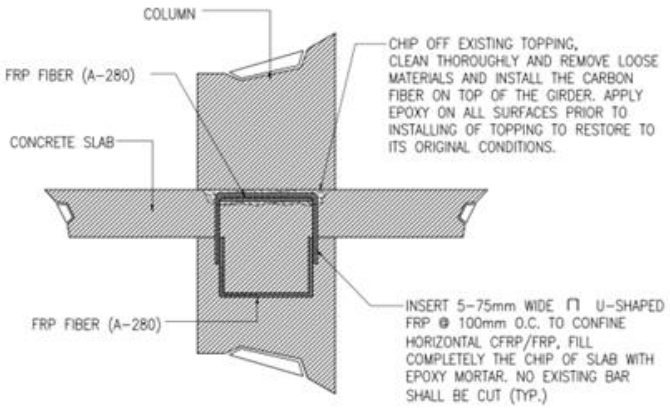


Figure 5: Typical Detail of Fiber Reinforced Polymer

e) Steel Bracing Systems. Steel-braced frames are structural systems used to resist earthquake loads on buildings. The use of steel bracing systems for strengthening or retrofitting seismically inadequate reinforced concrete frames is a viable solution for enhancing earthquake resistance. Steel bracing has flexibility to be designed to meet the required structural strength and stiffness. All structural and non-structural members with minute cracks are filled with epoxy through pressurized injection. The epoxy injection can be used in minor (<0.1mm), medium (<3mm) size cracks, and large crack widths (up to 5-6 mm). In case of larger cracks up to 20mm wide, the first step of the application process is to remove all loose material, clean thoroughly the surface of existing concrete, apply epoxy, and provide epoxy grout.

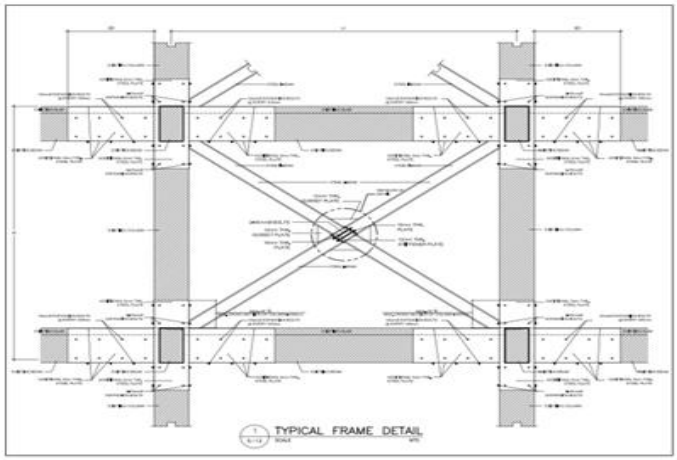


Figure 6: Typical Detail of Steel Braced Frame

D. CONSTRUCTION ACTIVITIES AND SCHEDULE

Once a building has been identified for retrofitting, the DPWH commissions the services of a design consulting team to evaluate and perform the required analysis and tests to determine the appropriate retrofitting design. The retrofitting design and other functions improvements are presented to the Bureau of Design (BOD) for approval. When the detailed engineering design is approved, bidding for the contractor will be initiated by the DPWH District/Regional Office.

Once the winning contractor is mobilized, the following activities will be undertaken by the contractor in coordination with the District/Regional Office and administration of the school or health facility:

Table 1: Activities involved in retrofitting works

Stage	Activities
Prior to Construction	• site investigation by the contractor in close coordination with the end-user (school or health facility administration) • development of a schedule/plan of works • securing of permits (as necessary) • Installation of project billboard/signboard
Earthworks (for retrofits involving foundation)	• Removal of slab on fill/obstructions • Surface preparation • Installation of shoring • Structure excavation
Building retrofitting	• Removal of obstructions, relocation of utilities • Construction of field office/makeshift office • Installation of scaffoldings, forms and falseworks • Chipping of concrete • Structural steel fabrication (done offsite) • Cutting and bending of reinforcing steel (deformed) • Concrete / epoxy injection and crack repair (including rectification of honeycombs, exposed rebars, and non-structural defects) • Epoxy-resin base bonding for concrete (structural epoxy) • Structural concreting (28 days) • Welding and bolting of metal structures and accessories • Finishing (painting, repair/restoration of affected architectural finishes)
Post-Construction	• Restoration of disturbed areas • Site clearing including removal of makeshift office

Depending on the scale of the retrofitting works on a building, the construction period typically occurs within 6 – 8 months.

E. PROHIBITED/NEGATIVE LIST

The Project will not involve activities with high potential environmental and social risks. Such activities which are not eligible for financing include but are not limited to the following:

- Activities that will result in the involuntary taking of land, relocation of households, permanent loss of assets loss of access to assets that leads to permanent loss of income sources or other means of livelihoods.
- Demolition or removal of assets without consultation and consent of owners of the building.
- Activities that could affect sites with cultural, archaeological, historical, or religious values.
- Construction works involving forced labor, child labor, or other harmful or exploitative forms of labor.
- Use of goods and equipment for military or paramilitary purposes.

III. POLICY, LEGAL AND REGULATORY FRAMEWORK

The Project will apply the World Bank's Environmental and Social Framework (ESF) which defines ten specific Environmental and Social Standards (ESSs) designed to avoid, minimize, reduce or mitigate adverse environmental and social risks and impacts of projects. The Project will also comply with the Philippine Government's environmental laws, standards, rules and requirements which impose restrictions on activities to avoid, minimize, or mitigate likely impact on the environment and the people. It is the responsibility of DPWH to ensure that all activities under the Project are in accordance with the legal framework. The following outlines the relevant laws and regulations in the Philippines while Table 3 summarizes the World Bank ESS standards, the Philippine laws and regulations and their applicability to the Project.

A. PHILIPPINE LAWS AND REGULATIONS

1. Presidential Decree 1586 – Philippine Environmental Impact Statement System (PEISS)

This law established the Environmental Impact Statement System that requires all agencies and instrumentalities of the national government, government- owned or controlled corporations, as well as private corporations, firms and entities to conduct an environmental impact assessment for every proposed project and undertaking which significantly affect the quality of the environment. The PEISS requires the identification of direct and indirect impacts of a project on the biophysical and human environment and the development of appropriate environmental protection and enhancement measures to address adverse impacts and risks. The rules and regulations to implement the PEISS are outlined in DENR Administrative Order No. 2003-30.

Projects covered by the PEISS need to secure an Environmental Compliance Certificate (ECC) while those that are not covered qualifies for a Certificate of Non-Coverage (CNC). DENR Administrative 2003-30 and EMB Memorandum Circular 2014-05 outlines the project thresholds for coverage screening and categorization under the PEISS. Schools with total/gross floor area including parking, open space and other areas that are less than or equal to 10,000 m^2 are not covered by the requirements of the PEISS. Primary, secondary, tertiary hospital or medical facilities require an Initial Environmental Examination (IEE) checklist while clinics (out-patient health centers including rural health units) are not covered by the requirements of the PEISS.

The PEISS also covers the aspects of community safety and health. It includes the assessment of impacts to public health and safety due to potential environmental and social risks of a project. The procedures for the screening, scoping, conduct of the EIA, and review are outlined in DENR Administrative Order 2003-30. The requirements for public participations under the PEISS are stipulated in DENR Administrative Order No. 2017-15. It aims to improve and rationalize public participation by incorporating best practice principles and standardizing the procedures and requirements and to achieve meaningful public participation at the various stages of the EIA process in the EIS System. Under the PEISS, public participation is a requirement from the social preparation prior to scoping to impact management and monitoring during project implementation.

2. Presidential Decree 1096 – National Building Code of the Philippines

The National Building Code provides the technical requirements in constructing and renovating buildings. It applies to the design, location, siting, construction, alteration, repair, conversion, use, occupancy, maintenance, moving, demolition of, and addition to public and private buildings and structures, except traditional indigenous family dwellings. It requires all buildings or structures as well as accessory facilities to conform to the principles of safe construction. Buildings or structures and all facilities are to be maintained in safe, sanitary and good working condition.

3. National Structural Code of the Philippines

The National Structural Code of the Philippines (2015) is a referral code of the National Building Code. It outlines the ultimate strength design, minimum design loads, lateral forces for buildings and other structures. It contains special provisions for seismic design and detailing to provide buildings with the required toughness and ductility. The code outlines a range of values that applies near-source factors or proximity to a known fault line in the design of buildings. The code prescribes the factors for maximum considered earthquake (MCE) which would allow building occupants to safely evacuate the building.

4. Philippine Green Building Code

This is another referral code of the National Building Code which aims to improve efficiency of building performance through a framework of standards that will enhance source environmental and resource management through efficient use of resources, site selection, planning, design, construction, use, occupancy, operation and maintenance. The GB Code sets the minimum standards for compliance on energy efficiency, water efficiency, material sustainability, solid waste management, site sustainability, and indoor environmental quality. GB Code checklists were developed relative to the architectural, electrical and electronic communication engineering, mechanical, plumbing and sanitary design of buildings.

5. Republic Act 10121 – Philippine Disaster Risk Reduction and Management (PDRRM) Act of 2010

Republic Act 10121 law provides the National Disaster Risk Reduction and Management Framework and institutionalizes the National Disaster Risk Reduction and Management Plan of the country. It adopts a disaster risk reduction and management approach that is holistic, comprehensive, integrated and proactive to lessen the socio-economic and environmental impacts of disaster including climate change. The law requires national agencies to strengthen their capacity for mitigation, preparedness, response, and recovery to reduce risks to human life and assets.

6. Republic Act 10174 – Amending the Climate Change Act of 2009

Republic Act 10174 provides the regulatory framework for the development of the National Framework Strategy on Climate Change (NSFCC) and the National Climate Change Action Plan (NCCAP). These documents serve as guidance to government in managing climate risk and vulnerability and in determining appropriate adaptation and mitigation measures for the country.

7. Republic Act No. 6715 – Labor Code of the Philippines

The Labor Code is a comprehensive legislation that regulates employment relations and provides the labor and working standards. The law extends protection to labor, strengthen the constitutional rights of workers to self-organization, collective bargaining and peaceful concerted activities, foster industrial peace and harmony, promote the preferential use of voluntary modes of settling labor disputes, and reorganize the national labor relations commission. The labor code and its implementing rules and regulations provide for the terms and conditions of employment that includes requirements on working conditions and rest periods, hours of work, service incentive leaves, service charges, wage rates and deductions, health, safety and social benefits, among others. The Labor Code prescribes the following:

Wage and Welfare

- Employees shall receive their wages by means of legal tender, at least once every two weeks or twice a month at intervals not exceeding 16 days.
- In a contracted work, employees of the contractor and of the latter's subcontractor, shall also be paid in accordance with the Labor Code.
- The wage paid by the employers to the workers shall not be lower than the prescribed minimum wage set by the Regional Tripartite Wages and Productivity Boards.

Working Time, Rest Days and Holidays

- The normal work hours for every employee shall not exceed eight hours a day. If all or any part of the employees's working hours falls on 10:00PM to 6:00AM, he/she shall be entitled to a night shift pay in addition to the regular wage. If the work performed exceeds the normal working hours, he/she shall be given overtime pay.
- It is the right of every employee for a rest period not less than 24 hours consecutive hours after every six consecutive normal workdays.

Equal Rights

- Workers shall have the right to self-organization and to form, join, or assist labor organizations of their own choosing for purposes of collective bargaining.
- Minimum employable age is 18 years old.
- Gender discrimination in employment and labor relations shall be prohibited. Male and female employees are entitled to equal compensation for work of equal value and access to promotion and training opportunities.

8. Republic Act 11058 – Occupational Safety and Health Standards Act of 2017

This law strengthens the compliance with Occupational Safety and Health Standards to ensure a safe and healthy working environment for employees by providing protection from all possible dangers in the workplace. The law applies to all organization, projects, sites, or any place where work is being done. The DOLE Department Order No. 198-2018 sets out the implementing rules and regulations of this act. The order provides that all workers must be appropriately informed by the employer about all types of hazards in the workplace, and be provided access to training, education, and orientation of chemical safety, electrical safety, ergonomics, and other hazards and risks.

This law does not only ensure the protection and safety of the workers but also of public/community of the possible hazards in the worksite. Chapter III – Duties and Rights of Employers, Workers and Other Persons, Section 9 (Safety Signage and Devices) of DOLE Department Order No. 198-2018, states that all

establishments, projects, sites and all other places where work is being undertaken shall have safety signage and devices to warn the workers and the public of the hazards in the workplace.

9. Republic Act 8749 – Philippine Clean Air Act of 1999

This law is a comprehensive air quality management policy and program which aims to achieve and maintain healthy air for the people. It addresses air pollution coming from stationary sources such as fuel-burning equipment and industrial plant; mobile sources such as motor vehicles; and other potential sources of air pollutants; and includes certain limits/standards and its corresponding penalties. It also contains provisions for air quality management funds, air quality monitoring and information network and designated airsheds. DENR Administrative Order No. 2000-81 sets the rules and regulations for the implementation of the Philippine Clean Air Act.

The National Ambient Air Quality Guideline Values for Particulate Matter 2.5 ($PM_{2.5}$) is outlined in DENR. Administrative Order 2013-13 wherein in an averaging time of 24 hours, the $PM_{2.5}$ should not exceed 50 μg/Ncm. The standards for other criteria pollutants at 24-hour averaging time are: total suspended particulates (TSP) – 230 μg/Ncm; PM_{10} - 150 μg/Ncm, sulfur dioxide (SO_2) – 180 μg/Ncm; and nitrogen dioxide (NO_2) – 150 μg/Ncm.

10. Republic Act 9275 – Philippine Clean Water Act of 2004

RA 9275 provides the comprehensive water pollution policy and applies quality management in all water bodies in the Philippines. It aims to protect the country's water bodies from pollution from land-based sources (industries and commercial establishments, agriculture and community/household activities) and covers all water bodies such as fresh, brackish, and saline waters, and includes but not limited to aquifers, groundwater, springs, creeks, streams, rivers, ponds, lagoons, water reservoirs, lakes, bays, estuarine, coastal, and marine waters. The DENR Administrative Order 2016-08 provides the "Water Quality Guidelines and General Effluent Standards pursuant to the requirements of RA 9275. The discharge of wastewater into any inland water that exceeds the general effluent standards is prohibited.

11. Republic Act 9003 – Ecological Solid Waste Management Act of 2000

This act and its implementing rules and regulations stipulated in DENR Administrative Order No. 2001-34 promotes proper segregation, collection, transport, storage, treatment and disposal of solid waste through the formulation and adoption of best environmental practice, ensure protection of public health and the environment, encourage greater private sector participation in solid waste management, and encourage cooperation and self-regulation among waste generators. It describes ecological waste management as the systematic administration of activities which provide for segregation at source, segregated transportation, storage, transfer, processing, treatment, and disposal of solid waste and all other waste management activities which do not harm the environment. The manner by which these activities are conducted shall be in accord with the best principles of public health, economics, engineering, conservation, aesthetics, other environmental considerations, and public attitudes.

12. Republic Act 6969 – Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990

This law regulates, restricts or prohibits the importation, manufacture, processing, sale, distribution, use and disposal of chemical substances and mixtures that present unreasonable risk and/or injury to health

or the environment; to prohibit the entry, even in transit, of hazardous and nuclear wastes and their disposal. The implementing rules and regulations are stipulated in DENR Administrative Order No. 1992-29 which also sets the registration and permitting requirements for hazardous waste generators, transporters and treaters.

Chemical Control Orders (CCOs) were issued pursuant to RA 6969. The CCO for Asbestos was issued through DENR Administrative Order No. 2000-02 which outlines the requirements to control and regulate the use and disposal of asbestos into the environment and to provide guidance on the treatment, storage, disposal of asbestos containing materials and asbestos containing wastes. Under the CCO, any person or entity involved in treatment, storage, demolition, transport and disposal of asbestos and friable asbestos containing wastes must register with the DENR-Environmental Management Bureau (EMB) and comply with the reporting, labeling, and handling requirements as embodied in the CCO. Activities involving demolition of facilities containing any asbestos containing materials should be inspected and assessed prior to demolition or renovation works.

13. Republic Act 11285 – Energy Efficiency and Conservation Act of 2019

This law creates the Inter-Agency Energy Efficiency and Conservation Committee (IAEECC) which is tasked to evaluate and approve government energy efficient projects and provide strategic direction in the implementation of the Government Energy Management Program (GEMP), a government-wide program to reduce the government's monthly consumption of electricity and petroleum products through electricity efficiency and conservation, and efficiency and conservation in fuel use of government vehicles, among others.

14. Presidential Decree 856 – Sanitation Code of the Philippines

The law provides the guidelines and standards to ensure health and safety of the people. Chapter VI outlines the standards on school sanitation and health services that takes into consideration construction of the school building using strong and durable materials, prevention of fire hazards, provision of sufficient ventilation, wall and ceiling finishes that give optimum lighting with minimum glare, flooring using suitable materials, and provision of potable water and sewage and waste disposal systems.

15. Batasang Pambansa 344 – Accessibility Law

This law requires certain buildings, institutions, establishments and public utilities to provide access for disabled, elderly and children. No license or permit for the construction, repair or renovation of buildings for public use will be granted unless architectural facilities or structural features such as sidewalks, ramps, railing, and the like are incorporated to enhance the mobility of disabled persons.

16. Republic Act 10066 – Cultural Heritage Act

According to RA 10066, in circumstances of chance finds, the discoverer shall report the said cultural or historical property to the Commission or to the concerned agency. Activities leading to the non-reporting of sites shall be considered physical interventions on archaeological or historical site and shall be penalized accordingly. The National Museum or the National Historical Institute shall immediately suspend all activities that will affect the site and shall immediately notify the local government unit having jurisdiction of the place where the discovery was made. The suspension of these activities shall be lifted only upon

the written authority of the National Museum or the National Historical Institute and only after the systematic recovery of the archaeological materials.

17. Local Government Code of 1991

The LGU Code requires all national agencies and offices to conduct periodic consultations with appropriate LGUs, non-governmental and people's organizations, and other concerned sectors of the community before any project or project is implemented in their respective jurisdictions.

B. GUIDELINES AND STANDARDS

1. DPWH Social and Environmental Management Systems Manual of 2016

The Operations Manual of the Social and Environmental Management Systems of the DPWH presents the internal procedures of DPWH in complying with the requirements of the PEISS for infrastructure projects for development, rehabilitation, reconstruction and improvement. It outlines the guidelines in the application of the EIA in the infrastructure life cycle and identifies the roles and responsibilities on environmental safeguards of the various units and offices within the department.

As early as the screening stage of every simple or complex project (ECC required or CNC eligible), the project stakeholders, particularly the project-affected communities, are identified and analyzed for engagement. They are informed and consulted on the project at the earliest stage as a general rule of courtesy. This ensures a timely, well-informed participation of potentially affected communities, organizations, and other government agencies. Consultations should be undertaken with local residents, professionals and experts to gather their views on both positive and negative potential impacts of the project, and to solicit recommendations to mitigate any identified adverse impacts.

2. Noise Standards

The noise standards in the Philippines were outlined in Presidential Decree 984 (Pollution Control Law). Although the law was completely repealed when Republic Act 9275 was issued, the noise standards in PD 984 is still currently being used as reference. Noise in areas near schools and hospitals merit the strictest noise levels. The maximum allowable noise levels are outlined in Table 2.

Table 2: Noise Standards in General Areas

Area	Maximum Allowable Noise Level, dB(A)		
	Daytime	Morning/Early Evening	Nighttime
Schools, Hospitals	50	45	40
Residential	55	50	45
Commercial	65	60	55
Light Industrial	70	65	60
Heavy Industrial	75	70	65

Source: Official Gazette, 1978 Implementing Rules and Regulations of P.D. 984.

Notes:

Category of Area is as follows:

AA - a section or contiguous area which require quietness such as area within 100 meters from school sites, nursery schools, hospitals, and special home for the aged.

A - a section or contiguous area primarily used for residential purposes.

B - a section or contiguous area primarily used as commercial area.
C - a section primarily reserved as a light industrial area.
D - a section primarily reserved as a heavy industrial area.

Division of 24-hour period is as follows:
Morning - 5:00 AM to 900 AM
Daytime - 9:00 AM to 6:00 PM
Evening - 6:00 PM to 10:00 PM
Nighttime- 10:00 PM to 5:00 AM.

3. DPWH Department Order No. 39, series 2020 – Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects during the COVID-19 Public Health Crisis

This order sets construction safety guidelines for the implementation of infrastructure projects during the COVID-19 pandemic which shall apply to construction projects that are allowed to proceed as stated in the Inter-agency Task Force (IATF)-issued Revised Omnibus Guidelines dated May 15, 2020 in areas under Enhanced Community Quarantine, Modified Enhanced Community Quarantine, General Community Quarantine and Modified General Community Quarantine. The order presents the requirements prior to and during deployment of workers, quarantine and testing requirements, provision of disinfection facilities at project sites, wearing of personal protective equipment (PPE), information dissemination on COVID-19 construction protocol, and monitoring and reporting procedures. The order also requires the designation of a full-time Safety Engineer/Officer at the site to strictly monitor work activities.

4. Department of Labor and Employment (DOLE) Department Order No. 13, series of 1998 – Guidelines Governing Occupational Safety and Health in the Construction Industry

This DOLE Order was issued to ensure the protection and welfare of workers employed in the construction industry, ensure the protection and welfare of the general public within and around the immediate vicinity of any construction worksite as well as the promotion of harmonious employer-employee relationships, and consider the relevant industry practices and applicable government requirements. This guideline will apply to all construction activities, including demolition, regardless whether private or public property. The Department Order sets forth the inclusion of a "Construction Safety and Health Program" prior to the onset of the construction where in the construction project manager is required to submit a comprehensive plan for the said program to the respective DOLE Regional Office. The said program includes the creation of a Safety and Health Committee, safety policies, penalties and sanction, orientation, instruction and training, and waste disposal. The DO also highlights the need for the use of personal protective equipment, designation of a safety personnel, use of construction safety signages, observance of safety and health information, and the practice of safety inspection and tool box meeting.

5. Joint Memorandum Circular No. 1, series 2020 – Occupational Safety and Health Standards for the Public Sector

The joint memorandum circular is an offshoot of the National Occupational Health and Safety Policy Framework that was signed by the Civil Service Commission (CSC), Department of Health (DOH) and the DOLE to guide key stakeholders in the development, implementation, monitoring and evaluation of occupational safety and health for both the public and private sector workers. The memorandum circular presents the guidelines to protect all government employees from dangers of injury, sickness or death in the workplace through the adoption of safe and healthy working conditions to ensure the preservation of human lives and resources and prevent loss/damage of properties.

C. OTHER RELEVANT INTERNATIONAL STANDARDS ADOPTED BY DPWH

1. United States Federal Emergency Management Agency (FEMA) 154 Procedure

FEMA 154 (version 2002) is a Rapid Visual Screening (RVS) procedure that is used in the Philippines to assess the potential seismic hazard to buildings in lieu of the development of local assessment procedures. Buildings with FEMA 154 RVS score of 2.1 or less are recommended for detailed evaluation, and are deemed eligible for selection for funding under the Project. Among the factors considered in the RVS version 2002 are: (i) seismicity of site (high seismicity for Metro Manila); (ii) structural type (e.g. reinforced concrete, moment-resisting frame: C1); (iii) structural height (e.g. medium rise: C1-M); (iv) geometric non-regularity (vertical and/or horizontal plan non-regularity in the building shape), (v) vintage of construction (e.g. pre-code when earlier than 1972, or post-benchmark when later than 1992); and (vi) soil type (except that the rapid took cannot effectively screen buildings on liquefiable soil). Based on current seismic design criteria in use on the Philippines, a building with a score above the specified cut-off may be considered to have adequate seismic resistance to prevent collapse during a design-level earthquake.

2. American Institute for Steel Construction (AISC), 8th Edition

The AISC is a technical and trade association that publishes the specifications for structural steel building design that is referenced in U.S. building codes.

3. American Concrete Institute (ACI) 318

The ACI is a non-profit technical society and standards developing organization in relation to concrete and its uses. The ACI 318 provides the minimum requirements in the design and construction of structural concrete buildings necessary to protect public health and safety. The latest edition of the Building Code requirements for Structural Concrete is ACI 318-19.

Table 3: World Bank ESS and Relevant Philippine Laws and Regulations and Their Applicability to PSRRRP

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PSRRRP
ESS1 - Assessment and Management of Environmental and Social Risks and Impacts	• PD 1586 (1987) – Philippine EIS System and DENR AO 2003-30 • PD 1096 (1977) –National Building Code of the Philippines • RA 10121 – Philippine Disaster Risk Reduction and Management (PDRRM) Act • RA 10174 – Climate Change Act of 2009 • DPWH Social and Environmental Management Systems Manual of 2016	Considering the project's location, nature and size, the project is not required to secure an Environmental Compliance Certificate (ECC) based on the Philippine Environmental Impact Statement (EIS) System guidelines. However, a Environmental and Social Assessment (ESA) will be conducted in each subproject through a screening process to identify environment and social risks and address anticipated potential impacts of the project to the affected stakeholders and nearby communities.
ESS2 - Labor and Working Conditions	• RA 6715 – Labor Code of the Philippines • RA 11058 - Occupational Safety and Health Standards Act and DOLE DO 198-2018 • Joint Memorandum Circular No. 1, series 2020 – Occupational Safety and Health Standards for the Public Sector • DPWH Department Order 39, series 2020 – Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis	The project involves civil works and direct and contracted workers and contractors will be hired and/or mobilized for each building subject to structural retrofitting and functional improvements. The Philippine labor laws and regulations contain the key elements of ESS2 that includes labor management procedures, terms and conditions of employment, rights of workers, occupational health and safety, non-discrimination and equal opportunity, prohibition on forced labor, and provisions on workers' organizations, grievance mechanism, and regulations for vulnerable workers, including child workers. However, the regulations are not clear on measures to prevent harassment, other than sexual and gender-based offenses, exploitation in the workplace, and on provision of social benefits and applicability of grievance mechanism to contract employees in the public sector. The Labor Management Plan (LMP) has been prepared to fully align with the ESS2. Guidelines for civil works in the time of COVID-19 pandemic and contingency planning for an outbreak will also be implemented.

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PSRRRP
ESS3 - Resource Efficiency and Pollution Prevention and Management	• RA 8749 – Philippine Clean Air Act and DENR AO 2000-81 • RA 9275 – Philippine Water Air Act and DENR Administrative Order 2016-08 • RA 9003 – Ecological Waste Management Act and DENR AO 2001-34 • RA 6969 - Toxic Substances and Hazardous and Nuclear Wastes Control Act; and Chemical Control Order on Asbestos (DENR AO 2000-02) • RA 11285 – Energy Efficiency and Conservation Act of 2019	The retrofitting and functional improvements in selected school buildings and health centers will create potential impacts related to air pollution from dust emission from site works and emission from equipment and construction vehicles used for construction; water pollution from runoff or soil erosion from stockpiled construction materials, wastewater from domestic sewage of construction workers, and accidental spillage of oil and other lubricants; noise from construction activities that may disturb nearby communities; generation of construction wastes and possibly hazardous materials containing asbestos that may be present in some old structures. The requirements of the RA8749, RA9275, RA9003, and RA6969 will be applied by the Project. Asbestos management procedures based on DENR AO 2000-02 will be in place to manage the hazardous material if encountered during construction. The Environmental Codes of Practice (ECOP) and Environmental and Social Management Plan (ESMP) are developed to manage these anticipated environmental and social impacts of the Project.
ESS4 - Community Health and Safety	• PD 1586 (1987) – Philippine EIS System and DENR AO 2003-30 • Presidential Decree 856 – Sanitation Code of the Philippines • Batasang Pambansa 344 – Accessibility Law • RA 11058 - Occupational Safety and Health Standards • DOLE Department Order 198-2018 • DPWH DO 39 series 2020 – Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis	The ESS4 and pertinent public health laws will apply to the Project. The retrofitting works will be conducted within the school/hospital premises with some excavation works on selected buildings, which may pose hazards on the building users and adjacent properties. There will be minimal number of vehicles transporting equipment and construction materials to the project site and drilling/chipping works expected relative to retrofitting activities that may generate noise, dust, and temporary disturbance to staff and occupants of the school and health centers and to the nearby communities. A Construction Safety and Health Program (CSHP) have been developed as part of this ESMF. The functional upgrades in the buildings will also include provision of access for PWDs, WASH, and other related improvements that would

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PSRRRP
		help improve access and safety of the facilities. The design of the function upgrades will comply with the requirements of ESS4 and national regulations.
ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	- Part of negative list	In this Project, subprojects involving project-related land acquisition or restrictions on land use will be excluded. No land acquisition or resettlement impacts are expected during the retrofitting of the health centers and schools but temporary displacement or disruptions to their operations including for concessionaires are anticipated. Proper agreement with the asset owners such as the use of available temporary/alternate facilities or learning spaces, shifting of classes or scheduling construction activities during nighttime or weekends or school breaks can minimize disruptions and will be assured by the project proponent. These mitigation measures are outlined in the ESMP.
ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources	-	ESS6 is not applicable to this Project. The schools and health centers are in community areas within Metro Manila. There are no biodiversity conservation sites that may be affected by the project.
ESS 7 - Indigenous People/Sub-Saharan African Historically Underserved Traditional Local Communities	- Not relevant.	ESS8 does not apply to the Project. There are no ancestral domains of Indigenous Peoples in Metro Manila as defined by the ESS7.
ESS8 - Cultural Heritage	• RA 10066 (Philippine Cultural Heritage Act)	RA 10066 and ESS8 are applicable to this Project. While the project will not include public buildings that have been declared as part of the cultural heritage of the Philippines, there are some areas in Metro Manila that have historical and cultural significance particularly in the city of Manila. Archaeological artifacts may be accidentally discovered during excavation activities for some buildings to be retrofitted.

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PSRRRP
		Chance Finds procedure is developed based on the National Commission for Culture and the Arts (NCCA) guidelines.
ESS9 - Financial Intermediaries	-	ESS9 is not applicable to the Project. There are no Financial Intermediaries (FIs) or public and private financial services providers involved in the Project.
ESS10 - Stakeholder Engagement and Information Disclosure	• PD 1586 (1987) – Philippine EIS System • DENR AO 2017-15 • Local Government Code of 1991 • DPWH Social and Environmental Management Systems Manual of 2016	ESS10 applies to the Project. The Stakeholder Engagement Plan (SEP) is developed to provide guidance in the conduct of public participation through open and participatory consultations with communities and affected persons. The public disclosure and consultations will enable stakeholders to give feedback on Project risks and impacts and that may help develop measures to address these issues during project implementation. Key stakeholders of the Project include school administration, faculty, students, health center administration and staff, LGUs, DepEd and DOH.

The results of comparison of the environmental and social regulatory framework of the World Bank and Philippines showed that the main difference is related to the site-specific assessment of environmental and social impacts. Under the Philippine EIS System (PD 1586), the nature and scale of the retrofitting and functional improvements of existing schools and health centers do not require a full-scale EIA. The basis of the DENR in the screening and coverage under the PEISS is the gross floor area (including open space) of a building. For existing subprojects with gross floor area (including open space) that are >10,000 m^2 and fall under Category B, an environmental performance report and management plan (EPRMP) will be prepared based on the requirements of DENR Administrative Order 2003-30 to secure the Environmental Compliance Certificate (ECC). However, since the subproject building floor areas and the potentially affected immediate vicinity of the subject building compound are less than 10,000 m^2, hence, the overall project is exempted from the requirements of the PEISS. In such case, a Project Description Report is prepared to secure the Certificate of Non-Coverage (CNC) from the DENR. In view of this variance, the Project will adopt the World Bank requirements in ESS1 through the review of each subproject building's environmental and social impacts and risks and the preparation and implementation of related ESMPs and ECOPs specific to particular types of activities covered by the Project. The ESMP/ECOP will also provide an overview of the extent of monitoring and supervision of responsible units and local institutions involved in risk management.

The Project will adopt the World Bank procedures and requirements in ESS1, ESS2, ESS3, ESS4, ESS7, and ESS10. The pertinent provisions of PD 442 and RA 1054 on labor management on fundamental principles of decent work and fair labor practices and safe asbestos wastes handling are integrated into the LMP. Child labor and forced labor are prohibited in the Project.

In terms of cultural heritage, the procedures and requirements of RA 10066 and ESS8 will be followed if there would be any chance discovery of artifacts. A Chance Finds Procedures is prepared in case of chance finds following the requirements of RA 10066.

IV. ENVIRONMENTAL AND SOCIAL BASELINES

The Philippines is a country near the top of global vulnerability rankings due to its exposure to adverse natural events. The country is located at the confluence of the "Pacific Ring of Fire" and the Pacific Cyclone Belt. At least 60% of the county's total land area is exposed to multiple hazards such as frequent earthquakes, floods, tsunamis, landslides, volcanic eruptions, cyclones, and annual monsoons. Over the past 50 years, the country experienced more than 15 destructive earthquakes. From the period November to December 2019 alone, four major seismic events of magnitude greater than 6.5 occurred. In addition, an average of 20 tropical cyclones (typhoons) enter the Philippines every year and climate-related events have been increasing in intensity over the last decade. In November 2020, typhoon "Rolly" (internationally named as "Goni") caused strong winds, flooding, and volcanic mudflow in the Bicol and Calabarzon regions, affecting approximately 1.6 million people and damaging 60 road sections and 7 bridges. In 2013, typhoon "Yolanda" (Haiyan) caused over 6,000 fatalities, damaged 1.1 million homes, and resulted in 2.3 million Filipinos falling below the poverty line.

The project will be implemented in the National Capital Region (NCR) or Metro Manila which is composed of 16 cities and one municipality covers an area of 619.57 km^2. Metro Manila is the country's seat of government and is considered as the one of the most congested metropolis in the world, with approximately 12.9 million people, one-third of which are considered urban poor, based on the 2015 census. Its total land area is 620 square kilometers, with old buildings, informal settlements, gated villages and tall skyscrapers interspersing with one another. Abrupt differences in elevations in Metro Manila follow the major earthquake fault lines, with the exposed ones highly visible as one passes by along areas where major cliffs just out as high as 30 meters while some are deep depressions on the ground. The earthquake faults in Metro Manila are shown in geological and hydrogeological maps surveyed and prepared by the Mines and Geosciences Bureau (MGB) and printed by the National Mapping and Resource Information Authority (NAMRIA) both under the Department of Environment and Natural Resources (DENR).

Discussed in the succeeding sections are the general information on the geology, climate, and natural hazards in Metro Manila. The multiple site-specific hazards of subprojects will be explicitly considered in the detailed design phase using the DOST-PHILVOCS GeoRiskPH platform.

A. GEOLOGY AND TECTONIC SETTING

Metro Manila and its immediate vicinities used to be a submerged floodplain one time in the geologic past. Intermittent volcanic activities resulted to the deposition of volcanic materials. During the intervening period of inactivity, transported sediments were deposited on top of previously-laid volcanic materials, thus, alternating beds and transported sediments became a characteristic feature of the geologic deposits.

Metro Manila is divided into three morphological units, namely, (i) Central Plateau, (ii) Coastal Lowland, and (iii) Marikina Valley (Figure 7). The Central Plateau refers to the north-south trending, elevated central portion of Metro Manila which gently slopes westward toward the coastal and deltaic areas of Manila and Pasay City. The Central Plateau area is mainly residential with ground elevation ranging from 20 m to 40 m and gradually becomes lower at the west side. The Coastal Lowland is a flat and low plain facing Manila Bay. The cities of Manila, Parañaque, Pasay, and Navotas are located in this morphological

unit which can be subdivided into sand bar, backmarsh including tidal flat, Pasig River delta, and reclaimed land. The eastern section slopes more steeply towards the floodplains of Marikina Valley, a basinal feature formed by repeated vertical movements along the Valley Fault System.

Based on historical data, there are five (5) potential seismic source zones consisting of four (4) active faults and one subduction zone identified to be the locus of major earthquakes that have significantly impacted the Metro Manila in the past. These are the Valley Fault System (VFS), the Philippine Fault Zone (PFZ), the Lubang Fault, the Casiguran Fault, and the Manila Trench. Figure 8 presents the location of the major earthquake generators and which are briefly described in the succeeding sections.

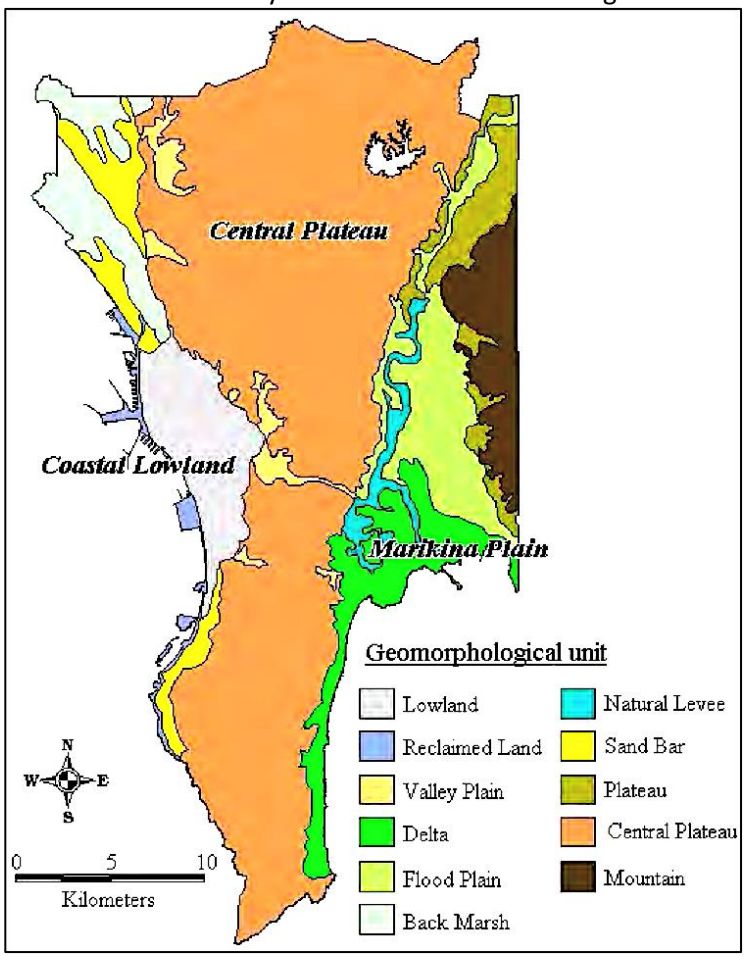


Figure 7: Geomorphological Map of Metro Manila

a) **Valley Fault System** - The VFS is a newly classified active fault based on recent mapping and trenching work conducted by Punongbayan and others (1990). The VFS is a potential earthquake source located about east of the center of Metro Manila. Based on the Metro Manila Earthquake Impact Reduction Study (MMEIRS) and the Greater Metro Manila Area Risk Assessment Project (GMMA-RAP), the VFS is projected to potentially cause the largest impact and damage to Metro Manila. The study estimated that a magnitude 7.2 earthquake on the West Valley Fault would result to an estimated 48,000 fatalities with catastrophic impact on government continuity and service provision.

b) **Philippine Fault Zone (PFZ)** – This is a 1,300 kilometer strike-slip fault transecting the Philippine archipelago. About one-third of the destructive earthquakes in Metro Manila was caused by the movement of this fault. Among the recent destructive earthquake caused by this fault is the July 1990 event which caused massive damage to Baguio, Pangasinan and Metro Manila. Although a majority of the most devastating earthquakes in Philippine history including the 16 July 1990 event was produced by the PFZ, other segments along this geologic structure have not moved for a long time, thus constituting what are referred to as seismic gaps. These seismic gaps are potential sources of large earthquakes in the future as large stresses are stored along the locked segment of the fault. One such gap is located 50 km east of Metro Manila.

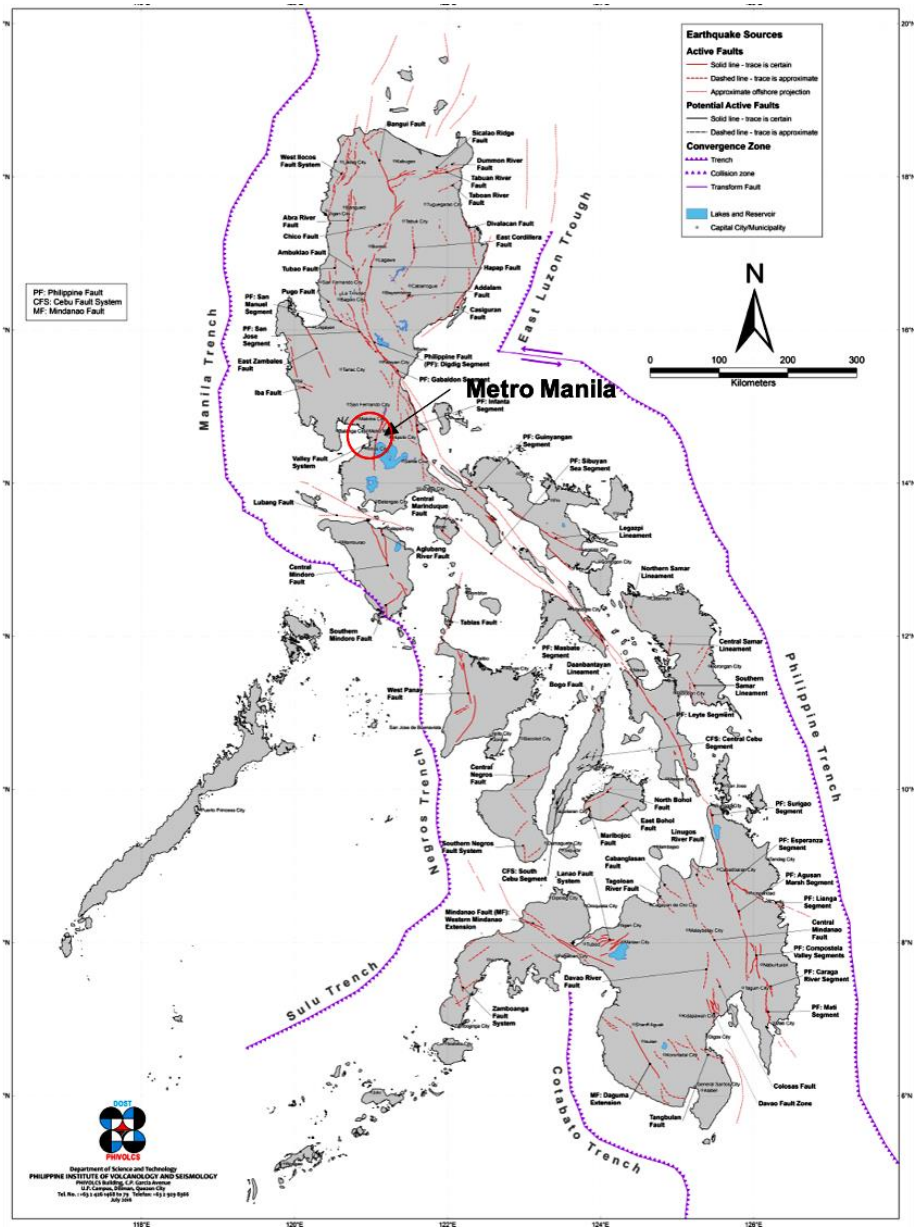


Figure 8: Location of Faults and Trenches in the Philippines

Source: PHIVOLCS

c) **Lubang Fault** - The Lubang Fault is an active strike-slip fault located about 80 kilometers southwest of Metro Manila. Destructive movements of the fault occurred in 1852 and 1972. The fault is characterized by periodic stress releases which lessens the potential for a major earthquake from this generator.

d) **Casiguran Fault** – This is located about 200 kilometers northeast of Metro Manila. It has generated about 30% of the destructive earthquakes in Metro Manila, i.e., 1880, 1968, 1970 and 1977 at Intensity IX in the epicentral area and at Intensity VII-VIII in Metro Manila. Among the effects of the 02 August 1968 event in Metro Manila were the total collapse of a six-storey apartment in downtown Manila that cause 268 deaths and a comparable number of injuries, demolition of a number of structurally defective buildings, non-structural damage to buildings and infrastructure, and liquefaction in several sites in the metropolis.

e) **Manila Trench** - Destructive movement of the fault was reported in 1677 whereby a tsunami was reported along the China Sea. It was also reported that a submarine origin for the 1863 earthquake with corresponding tsunami that rocked several ships anchored in Manila Bay. A submarine origin for the 1863 earthquake is strongly indicated by the documentation of a tsunami that rocked several ships anchored in Manila Bay (Repetti 1946; Lida and others 1967; Berninghausen 1969). No damage, however, was reported along the coastal areas of Manila Bay. Destruction was said to be widespread, most of which was due to strong ground shaking. A large number of structures, including most churches within Manila and adjoining areas of Cavite, Bulacan, and Laguna collapsed. About 500 people were killed and at least 400 others injured, mostly in Manila. Extensive fissuring, liquefaction and seiche were observed along the Pasig River.

B. LIQUEFACTION

Earthquake intensity and its corresponding degree of damage is not the same throughout Metro Manila due to varying types and characteristics of underlying soil or rock material present. Liquefaction is a phenomenon closely associated with earthquakes. Liquefaction involves the transformation of loose, cohesion less, and water-saturated layers of soil from a solid to liquid state. One of the most obvious effects of liquefaction is differential settlement, where some portions of the soil mass underlying the foundation settle more than the other parts, thus, causing damage to the structures on the surface. Liquefaction prone areas are located mainly along the Manila Bay coast and in the Marikina River basin. These areas are mostly underlain by medium dense to loose sand and/or firm to soft clay.

Earthquake-related liquefaction is estimated to affect a significant portion of Metro Manila under The Big One scenario. Liquefaction maps, developed by DOST-PHIVOLCS and available through the HazardHunterPH[7] platform, show that zones in the West and East of Metro Manila would be affected by liquefaction. Analysis indicates liquefaction would affect 34% of Manila's road network –over 7,000 km of main and residential roads. A detailed mapping of liquefaction-affected road segments is shown in Figure 9.

C. TSUNAMI

The western portion of Manila and the rest of the western coast of Luzon are within a tsunami susceptible zone and could be affected should a high magnitude earthquake occur within the Manila Trench in the

[7] https://hazardhunter.georisk.gov.ph/

future. The 1300 km long subduction zone beneath the Manila Trench could potentially generate an earthquake exceeding NMw 9.0, and thus poses a major tsunami hazard for the large population centers particularly the western part of Metro Manila, Cavite and Bulacan. The Manila Trench is located west of Luzon and extends from Taiwan in the north to Mindoro in the south. The trench marks the trace of the subduction of oceanic crust of the South China Sea basin underneath the Luzon arc. It is associated with an active volcanic arc, which includes Mt. Pinatubo. The trench is expressed as a narrow but deep bathymetric feature that reaches a maximum depth of 5,100 meters west of Manila. It has been suggested that this trench might have triggered the 1677 and 1863 earthquakes. The first occurrence resulted in the generation of tsunamis hitting the western coast of Luzon and fissuring in Manila. The second likewise resulted in tsunamis and the collapse of numerous buildings due to ground shaking. Extensive fissuring, liquefaction and seische along the Pasig River were observed (Daligdig and Besana, 1993).

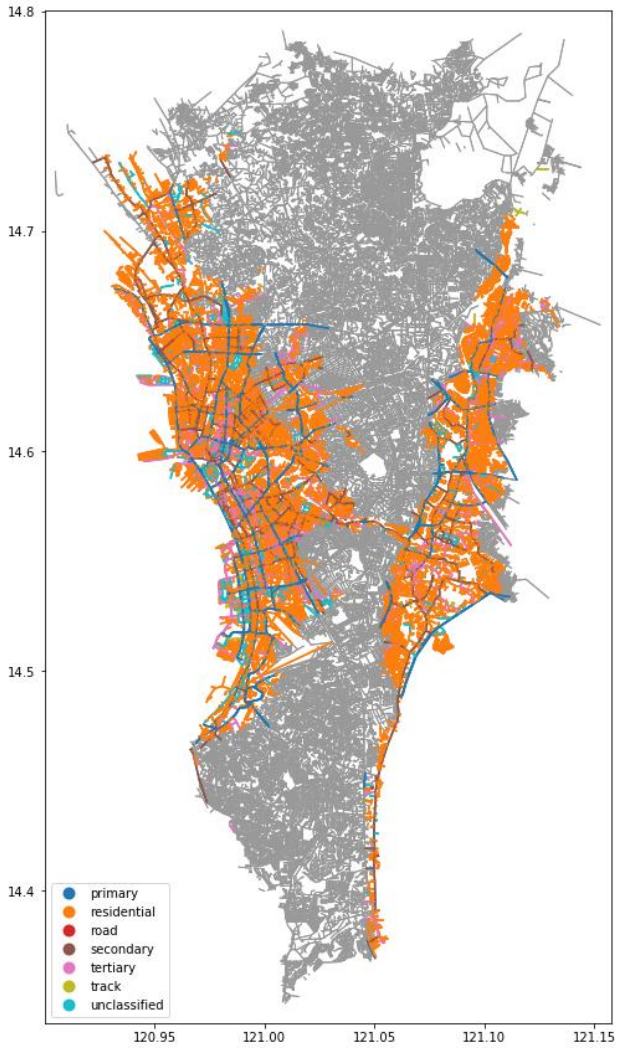


Figure 9: Road sections at risk of liquefaction

Source: HazardHunterPH, OSM

D. VOLCANIC HAZARDS

There are three (3) active volcanoes within the 120-kilometer radius of Metro Manila. These are: (i) Mt. Banahaw, located about 73 aerial kilometers southeast of the site; (ii) Taal Volcano, located approximately 63 kilometers south-southwest of the site; and (iii) Mt. Pinatubo, located 97 aerial kilometers northwest of the site. The last recorded eruption of Mt Banahaw was in 1780 while the biggest recorded eruption of Taal Volcano was in 1911 and in 2020, wherein ashes reached as far as Manila and Quezon City. Mt. Pinatubo erupted on July 16, 1991.

The predicted effect of the eruptions of these volcanoes to Metro Manila and its immediate vicinity are basically that of ashfall. Ashfall will generally be controlled by the height of the eruption column and the prevailing wind direction.

During the Taal Volcano eruption in January 2020, DPWH's Quick Response Assets (QRAs) were requested and deployed from other regions. The QRAs traveled under normal road conditions, did not encounter damaged roads, bridges, or landslides, and still took more than 12 hours for about 90% of deployed resources to arrive at the requested location.

E. CLIMATE-RELATED HAZARDS

Metro Manila is situated within a Type 1 climate which is characterized by two pronounced seasons, dry from December to April and wet for the rest of the year. Maximum rain period is in the months of May to November with July as the rainiest month. During this period, the area is exposed to the southwest monsoon, a regional wind pattern laden with rain clouds and is the dominant factor why rains come at this time of the year. Cyclones in most cases exacerbate the rainy season as rainfall becomes intense. The presence of Inter-tropical Convergence Zone (ITCZ) where warm and cold air meets, also contributes to the increase in rainfall depth. The driest month of the year is February when the northeast monsoon prevails.

1. Flooding

Flooding occurs as a result of continuous and excessive rainfall from either typhoon or the southwest monsoon. In Metro Manila, an average of 18-20 flood events occur every year. Flood prone areas are classified according to the 2 – 10 years flood cycle period, 50 – 100 years cycle period, and sea level rise within 100 years. Flooding in areas belonging to the 2 – 10 years flood cycle is directly attributed to insufficient, undersized and clogged drainage facilities, as well as to the overflowing of major rivers during intense rain. Extremely flat topography and low lying areas that are less than 2 meters above mean sea level characterize these areas. The areas along Manila Bay are prone to flooding due to backwater effects during high tide. The areas within the Marikina Valley corresponds to flood prone areas in the 50 – 100 years flood cycle where immediate periphery of the Marikina River would be inundated with flood heights of 9.8 to 24 meters. In the event of a 100-year flood, the entire valley area, from Rodriguez, Rizal to the Laguna Lake may be submerged in floodwaters reaching 10 to 21.5 meters high.[8]

2. Storm Surge

Storm surge may be visualized as a raised dome of water, moving with the storm and centered a few nautical miles to the right of its path. The dome height is related to local pressure (i.e., a barometric effect

[8] Mines and Geosciences Bureau. Explanatory Text. Preliminary geohazard maps of Metro Manila

dependent on the intensity of the storm) and to wind stress on the water caused by local winds. Other significant contributing factors are storm speed, direction of approach, bottom topography, and coincidence with astronomical tide.

PAGASA conducted a study on the storm surge in Manila Bay by model simulation of the actual storm surge occurrences in the coastal areas around Manila Bay. The model simulated typhoons that passed north of the basin, south of the basin, and over the basin. The results indicated that a typhoon crossing at any point of the basin from the eastern side generated storm surge with peak surge occurring at the northern end of the bay. Additionally the highest value is generated by typhoons, which cross the center of the bay, and by typhoons, which cross less than 75 km (46.9 nmi) away north of the basin.

PAGASA researchers developed a Storm Surge Hazard Map of Manila Bay, which shows that the majority of Manila Bay, including South Harbor, is susceptible to inundations from 3.3-13.1 ft. (1-4 m) from tropical cyclones. During Typhoon Nesat in September 2011, high waves and storm surge flooded the areas in Roxas Boulevard in Manila. The Category 3 typhoon, with 120 mph winds, dumped 12 – 15 inches of rain along portions of its path. The huge waves caused by the storm surge battered the bay's seawall, causing portions of the wall to collapse.

V. POTENTIAL ENVIRONMENT AND SOCIAL RISKS AND MITIGATION

A. PROJECT TYPOLOGY

The Project will finance the design, construction and supervision of civil works for the project investments associated with the retrofitting and functional improvements of schools and health facilities. The general approach of the retrofitting methodology will follow internationally recoginzed United States (US) standards and guidelines on the retrofitting of buildings for seismic hazards. The type of retrofitting works will be tailored-fit based on the results of the physical, geotechnical and structural analysis vis-à-vis actual conditions of each facility/building, with the restructured building specifications can only be described in detail during the detailed engineering design. Once DPWH identifies the eligible buildings based on the SVR screening, a design consulting company commissioned by DPWH will undertake the assessment of the structural condition of the building to determine the technical approach of the retrofitting methods to be deployed. Functional improvements that consist of construction of non-structural elements like access for persons with disabilities, improvement of ingress and egress, fire safety, WASH, and COVID-related functional measures will be key features in all retrofitting works for the structural improvements of the affected buildings.

All the works will be done in and limited to the existing facilities and no new buildings will be developed. In some facilities, retrofitting works may involve major retrofitting works on foundations, columns and beams including strengthening of roofs while in some areas, only concrete/epoxy injection, replacement and repair of walls, windows and other accessories and may be necessary. Possible works related to major retrofitting activities will include: (i) steel or concrete jacketing/bracing, (ii) installation of FRP materials for building structures, and (iii) construction of functional improvements. It is common to apply structural epoxy or concrete on cracks. The final choice of the retrofitting works depends on the outcome of the detailed design.

Since the retrofitting activities will be confined within floors or sections of a building, these activities are not required to undergo a formal environmental assessment based on the Philippine Environmental Impact Statement System (PEISS). However, there are likely to be some concerns relating to inconveniences or nuisances to surrounding areas during construction which will require careful construction planning and management which will be integrated in the ESMP and ECOP of each building.

B. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The potential environmental and social impacts of the project activities were initially identified based on the experience of DPWH in past building retrofitting projects. Site specific impacts during pre- and construction stages, will be analyzed during the detailed design stage and which will be addressed in the ESMPs, ECOPs and other safeguard instruments. If significant impacts are identified based on the environment and social screening in Annex A, the ECOP is supplemented by the Environmental and Social Management Plan (ESMP) to address the site-specific impacts that have been identified. The typical project environmental and social impacts for the Project activities are presented below.

As discussed above, the type of retrofitting for a particular building are still unknown and would be dependent on the results of the detailed analysis. However, the typology of major retrofitting works for either a school or health facility would be similar and would entail direct physical impacts and disturbance

to users of the facility and surrounding community in terms of dust, noise, vibration, fumes from adhesive and polymer compounds, and temporary disruption of operation. There will also be impacts resulting from runoff of excavated soil and materials and generation of construction debris and wastes. Other construction-related impacts may result from Contractor's temporary office, storage area, oil and gas leaks from equipment, sanitary facilities, health and safety issues related to the management of COVID-19 risks, and movement of trucks and equipment in the site during working hours and non-working hours in the schools and health facilities. These could pose occupational as well as community health and safety risks to workers, building occupants and surrounding communities. Most of these works will generate temporary and localized construction impacts and could be prevented or reduced to acceptable levels through proper planning and by applying good international construction practices.

There may be small areas for cement mixing or stockpiling of construction materials in the premises of the school or health facility compound or on sections of the building to be retrofitted. As a rule of thumb, the concrete mixing should be done inside the enclosed working space. If this cannot be accommodated and needed to be done outside, the materials will be brought in the premises only on the day, only in the quantity needed in the constructions works. DPWH's worksite management policy requires contractors to deliver only essential construction materials to be used for the day or short period of time (commonly on a weekly basis) so that small batch construction methods can be adopted and result to small, manageable and short-term impacts and disturbance.

All the buildings (schools and health facilities) targeted under the project have social significance and therefore has the potential of the operations to disrupt education and healthcare services and temporarily interfere with youth development or provision of care needs during building retrofitting. Based on the current practice of DPWH in civil works construction for schools, the schedule of construction is generally undertaken during school breaks or vacation period. In this way, disturbance to classes is avoided. For health facilities, the scheduling of civil works and implementation of functional upgrades to provide multi-hazard measures should be carefully managed and properly coordinated with the health facility administration.

Discussed in the succeeding sections are the identified risks and impacts and the proposed mitigation measures to address these.

1. Temporary relocation of school classrooms, health facility and other building utilities

All the buildings (schools and health facilities) targeted under the project have social significance and therefore construction activities will have the potential to disrupt education and healthcare services. The construction activities usually occur within a period of 6 – 8 months, hence, the location of temporary classrooms and health facilities should be well-planned to ensure continuous operation of the building services.

a) Consultations

The PIU, IO, and the design team should consult with the building administrators and other stakeholders such as faculty, medical staff, engineering staff, including students, patients and parents to hear their issues and concerns and preferences during programming of the project. This will be done during the detailed engineering design and prior to the start of any construction activities. Barangay and neighboring communities will also be consulted to inform them about the proposed project and to get their comments

on proposed measures to management impacts and nuisance. Collaboration with representatives from the community in planning the temporary location site should be maximized to identify safe sites. The local government leaders may help provide suggestions on temporary relocation sites for health facilities if there are no available areas within the health facility compound. For school buildings, relocation of classes outside of school compounds will be avoided. Classes may also be merged, done in shifts, or conducted online to ensure that students will continue with their education during retrofitting.

There may also be economic enterprises inside the health facility or school that may be temporarily affected during the retrofitting of the building. The canteen operators must also be consulted and provided alternative locations during the planning of the project.

The site survey and consultations aim to identify ways to minimize disruption of operation of the building and to develop an acceptable program of activities and the temporary relocation areas for classrooms, health facility, and other affected utilities.

b) Guidance on Selecting Areas for Temporary Classrooms

The project will keep in mind the health and safety of the surrounding areas to ensure that the temporary school site is conducive to learning of students.

- The site shall be set up within the school compound in available rooms and areas of the school building that are not subject to retrofitting such as library, gymnasium, and quadrangle.
- Discuss with the school administration and stakeholders the implementation of flexible class schedules such as class shifts, weekend classes, and extension of classes during school breaks, or conduct of online classes.
- Avoid locating the temporary classrooms near the main entrance where vehicles and materials delivery and other construction services may take place.
- Select a site with roofing or shade to protect teachers and students from exposure to sun or rain.
- Examine safety of the site and check against any hazardous areas such as noisy areas, falling debris, diggings, open electrical wires, and dusty surroundings.
- Provide temporary barricade for the classroom.
- Ensure that the temporary classroom has easy access to toilet facilities with adequate water and sanitation provisions.
- Ensure that the temporary area is provided with adequate lighting and ventilation.
- Ensure that there is provision for mobility of handicapped/disabled persons at the temporary site.

c) Guidance on Selection of Areas for Temporary Health Facility

The temporary site for the health facility will enable continued health services during the period of retrofitting of sections of the building. It is the responsibility of the PIU and IO to closely coordinate with the health facility administration on relocation planning to identify the critical use of affected rooms, the number of patients and occupants needing to be relocated, important utilities and equipment that may be affected (e.g. power supply which are essential to powered life support equipment), and other limitations in the movement of critical care. The identification of the temporary health facility site should allow for provision of appropriate/safe delivery of care and services but recognize that expectations of service delivery at a receiving site may have to be revised. Interim measures to be considered during planning may include:

- Identify areas in another wing or separate building of the health facility as temporary sites for the affected sections of the building.
- If there are no areas available within the compound, consider the staging of temporary care area at local government or community facilities such as Barangay centers, gymnasiums, and covered court. Consider other appropriate accommodation facilities such as hotels as temporary sites.
- Plan the movement of essential equipment and consumables to the temporary sites where possible to support health service delivery including staff/resource support and specialized equipment needed.
- Ensure that beds and other equipment at the temporary site can be accommodated to the most appropriate clinical care and requirement.
- Plan for the temporary reduction of healthcare service system load by establishing a diversion of patient transfers to other nearby public health facilities.
- If the Emergency Department section will be affected by the building retrofitting, adopt a "See, Treat, and Transfer (STT)" model of clinical care that focuses on providing health service that can support walk-ins and emergencies of time critical nature, implement immediate attention and intervention, before deciding on referral or transfer to another suitable facility.
- Ensure security of the temporary health care facility site and that movement of patients and staff through the facility is safe.
- Develop a system of informing the staff and the general public about the temporary disturbance and the relocation of the affected site.
- Ensure that the temporary site is well-ventilated and has functioning utilities for water, power, and sanitation.
- Put up safe barricades and signages for guidance of the general public in finding the location of relocated medical services.

d) Guidance on Selection of Areas for Temporary Canteen

There may be instances where the canteen and other food concessionaires of the school or health facility may be affected by the building retrofitting activities. These economic enterprises or businesses are expected to be temporarily relocated within the same compound for continued operations and to avoid livelihood impacts. Consultation with the canteen operator /concessionaire should be conducted during the planning process to ensure that income of the operator and its staff are not adversely impacted. The following are considerations in the planning of the temporary site for the canteen:

- The temporary site must have safe and sanitary area for food preparation.
- The area must have access to electricity, water, and toilet.
- The temporary site must have safe and comfortable ventilation, lighting, flooring, and walls/barricade.
- There must be sufficient floor space for food preparation, food service, and passageways of people.
- There must be provision for waste bins.

2. Construction Impacts and Site Management

Construction and civil works to implement the building retrofitting activities and functional improvements involves the removal of obstructions, installation of scaffoldings and falseworks, chipping of concrete and

stripping down of targeted structures (walls, ceilings, columns, beams), welding and steelworks, concreting, application of epoxy, and finishing and restoration works. These construction activities generate low to moderate impacts and risks to workers, building occupants, and the community such as noise, dust, wastes, and potential hazards. Impacts can be managed through proper site management.

a) Materials Management

Materials that will be utilized for the retrofitting of buildings and construction of functional improvements include cement, epoxy, aggregates, sand, steel braces/jackets, and reinforcing steel. The bulky materials (cement bags, aggregates, sand, steel braces/jackets and reinforcing steel) will require some space within the site, hence, a materials management plan is necessary to avoid disturbance and ensure safety in the construction site. The following materials management measures are proposed:

- Where possible, avoid stockpiles by only ordering the supplies needed.
- Only when necessary, stockpiles of aggregates and sand should be placed inside the rooms under construction. Only in exceptional cases will the construction materials be allowed to be stockpiled when ready for mixing only within a couple of days. The construction site with the stockpile should be properly secured, with highly visible notices, in an open area near the construction site inside the building compound, at least 10 meters away from any canal or surface water.
- Stockpiles of aggregates should be provided with sediment control measures such as silt traps.
- Cement bags should be covered with tarpaulin.
- Coordinate the schedule of delivery of materials with the school/health facility administration.
- Ensure that materials stockpiles are placed in safe and secure area within the facility that is approved by the school/health facility administration.
- Schedule delivery of materials to limit movement of delivery vehicles to the site.
- Provide barricade on stockpile of materials.

b) Waste Management

Wastes that will be generated during the construction activities will include debris such as excavated soil for foundation works, concrete debris from chipping and stripping down of structural parts, pieces of rebars, wires, nails, broken glass, wood, pipes, empty containers of paint, solvents, strippers, epoxy resins, adhesives, degreasers, oily rags, used oil, spent welding electrode sticks/rods, busted lamps, possibly asbestos wastes, among others. The excavation of substructure and foundation may also result to cut soil. There may also be food wastes generated by workers and other ordinary solid wastes (bits of paper, plastics, and packaging materials). Except for the empty containers of paints, solvents, epoxy resins, adhesives, degreasers, oil rags, and busted lamps which are classified as hazardous wastes, most of the wastes are considered as inert and non-hazardous wastes.

Before construction, a solid waste management procedure (storage, provision of bins, site clean-up schedule, bin clean-out schedule, etc.) must be prepared by the contractor. Arrangements with a solid waste transporter licensed by the local government must be obtained. Likewise, a temporary site for the waste area that is recommended/approved by the school or health facility must be identified beforehand where waste segregation containers will be provided by the contractor. Waste containers shall be provided with cover to avoid tipping by animals.

After a day's work, workers are required to clean the work area. All materials and tools are stowed accordingly in preparation for the next day's work. This will also enhance efficiency and assist in

maintaining a safe environment when workers return to work the next day. Wastes are properly sorted and disposed of in different waste bins or garbage containers.

Discussed in the succeeding sections are the measures to manage the different types of wastes during the retrofitting activities.

Non-Hazardous Waste. The non-hazardous waste should be placed in waste segregation bins. Separate bins will be provided for biodegradable waste (food wastes), recyclable waste (wires, pipes, rebars, and other pieces of metal), and hazardous waste. Excavated soil will be used as filling materials while other recyclable materials such as wooden planks may be used for formworks and scaffolding. The recyclable materials will be collected and separated onsite from other waste sources for reuse or for sale.

Burning of garbage and construction wastes shall be strictly prohibited at the site. Materials which are clearly a danger to building occupants e.g. exposed nails, broken glass, steel beams, etc. should be properly collected to avoid accidents. Work areas will be maintained clear of waste materials and obstructions. Stockpiles of waste materials will not be allowed.

Hazardous Waste. Hazardous waste should always be segregated from the non-hazardous wastes. Designate an area for the temporary storage of empty containers (paints, solvents, epoxy resins, adhesives, degreasers), oily rags, and busted lamps. Proper labels should be affixed on bins of these types of hazardous wastes. As a hazardous waste generator, the contractor is required to secure a Hazardous Waste Generator Registration with the DENR and to commission the services of a DENR-registered hazardous waste transporter and treater for the collection and disposal of hazardous wastes. A Hazardous Waste Manifest must be completed to document the amount of hazardous waste generated and collected/disposed for offsite treatment. The DENR-recognized treater should issue a Certificate of Treatment (COT) ascertaining the safe treatment and disposal of the hazardous waste. The COT records shall be kept for proper documentation.

Asbestos Containing Materials. There may be situations wherein the affected building section may contain asbestos materials as high-density products in roofing and flat sheets/walls of existing building. The use of amosite (brown) and crocidolite (blue) asbestos fibers and of products containing these fibers is strictly prohibited and that no spraying of all forms of asbestos in buildings is allowed. The contractor must undertake specific precautions if materials containing asbestos are present or encountered during works in order to ensure the protection of workers and occupants of the building. Asbestos fibers may be carried to the lungs. Prolonged and cumulative exposure is harmful and may cause asbestos-related diseases.

The procedure for handling asbestos materials must comply with the DENR Chemical Control Order on asbestos and the DOLE Order No. 154, series of 2016 on the management of asbestos in the workplace. In case asbestos materials is encountered at the work site, the following procedures should be followed:

- If asbestos is identified during the dismantling work, work will be suspended until DENR is notified of the situation. Only DENR licensed asbestos handlers are allowed to enter the premises.
- Notify the DENR of the proposed removal work and coordinate the activities with the DOLE with regards to the methods to be employed, inspections, decontamination, control monitoring and clearance inspections.
- The removal work must be assigned to a suitably qualified asbestos removal specialist.
- Isolate the site and provide barriers
- Restrict access from the general public to the site

- Erect appropriate signs and keep all access points locked at all times
- Following removal works, all surfaces are to be thoroughly cleaned using HEPA filtered vacuum and wet pipe techniques.
- On completion, the site must be carefully checked for visible asbestos containing materials.
- Any asbestos materials must be placed into asbestos plastic bags and then removed from the site by DENR-licensed waste transporter and treater.
- A hazardous waste manifest shall be completed for the transport, treatment and disposal of asbestos wastes offsite.
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PLEASE ADD TRAFFIC MANAGEMENT

c) Air quality

Dust and Emissions. The retrofitting and construction activities may generate dust and fine materials from chipping and drilling of concrete which can cause degradation of ambient air quality and indoor air quality if not properly managed. Air quality issues may also arise from stockpile of excavated soil and aggregate and sand materials if not properly covered, where during dry and windy conditions may be carried by wind. Dust is an environmental issue and a health and safety issue. The movement of hauling vehicles to the site during delivery of materials especially on unpaved road surfaces may also cause suspended fine dust particulates as well as vehicle emissions.

Odor from Epoxy and Paint/Solvent Fumes. Odor from the application of epoxy resin, paint and solvent may also be generated. Workers may be exposed to fumes that can cause irritation of the nose, throat, and lungs. Workers applying epoxy resin and paint should be provided with respiratory mask. The area should be well-ventilated.

Welding Fumes and Gases. Air quality may also be affected during the welding of steel plates and cutting of steel. Workers are the ones directly exposed to this hazard. Overexposure to welding fumes and gases can cause health problems like respiratory illnesses.

To manage and mitigate these impacts and risks, the following measures will be implemented:

- Only TESDA National Competence II licensed welders will be hired by the contractor to do the welding works
-
- To prevent the build-up of toxic metal fumes inside enclosed spaces, forced ventilation equipment will be used to induce the fast exchange of indoor and outdoor air and dissipate the toxic gases inside the rooms. Check the surrounding areas to avoid the spread of the fumes in occupied rooms or even in adjacent properties.
- For indoor concrete chipping and drilling, enclose the construction area with impermeable dust barriers and use industrial air vacuum pumps and ventilation exhaust fans to minimize spread and spillover of dust.
- For chipping/drilling activities on the exterior surface of the building, install nets/sheeting and temporary screens.
- Conduct water spraying to suppress dust and minimize discomfort to nearby residents and occupants in the compound.
- Require workers to wear gas and particle mask and eye protector metal face shield.

- Keep stockpile of aggregate and sand materials covered with well-fixed plastic sheeting, tarpaulins or other geotextiles to avoid suspension or dispersal of fine soil particles during dry and windy days.
- Equip concrete mixing equipment with dust shrouds.
- Periodically clean-up debris.
- Prohibit idling of construction vehicles while unloading materials at the site.
- Provide welders with PPE appropriate for welding activities and provide adequate ventilation and local exhaust to keep fumes and gases from the breathing zone and the general area.

d) Noise

Noise during construction may occur during operation of equipment and movement of delivery vehicles at the site. Noise caused by operation of machinery coupled by haulage vehicles can cause nuisance. It could disrupt ongoing classes or cause nuisance to patients. Workers are also directly exposed to noise. In order to avoid the risks and impacts of noise, the following measures are recommended:

- Coordinate with the administration of the school or health facility on the schedule of construction activities that will minimize disruption of facility operation
- Provide temporary anti-noise barriers to barricade the construction area and shield sensitive receptors, inside and outside the premises of the building, including adjacent properties
- Strictly prohibit concrete chipping and drilling activities beyond 9:00PM particularly in areas near sensitive receptors and residential areas
- Deliver fabricated steel plates and cut/bend reinforcing steel to desired size to minimize cutting activities onsite.
- Require workers to wear ear plugs.

e) Drainage

Not all construction activities may necessarily require retroffiting of footings but all design activities start with the investigation of the symptoms of structural problems and failures in the foundation. This is performed through digging of sample or selected footings to determine indicators of structural concern and determine where repair is necessary.

During the excavation for the retrofitting of foundations, the excavated soil may cause soil erosion during rainfall events. Storm water runoff may carry soil into canals and reduce the water-carrying capacity of the canal that could contribute to flooding during heavy rains. Excessive soil runoff may also lead to sedimentation of creeks and rivers. Another potential risk of soil runoff is from the residues from cement mixers and washing of equipment which could likewise clog canals.

In order to avoid impacts on drainage, the following measures must be implemented:

- Avoid earthworks during rainy months.
- Stockpile excavated soil (including aggregates and sand) away from drainage canals and water courses.
- Stockpiles of excavated soil and aggregates/sand should be provided with sediment control measures such as silt traps, barriers and trenches.
- Prohibit washing of cement mixers and other construction vehicles at the site
- Conduct daily cleaning and sweeping of the construction site and periodically remove soils, stones and wastes from gutters, drainage canals and ditches.

- During rain events, check the drainage system to see if these are blocked. Remove materials and wastes that have been swept away by stormwater.

f) Water Pollution

Domestic sewage will be generated during construction due to presence of workers at the site. The contractor will be require to provide temporary toilet facilities or portable toilets ("portalets") for the sanitation requirements of workers. These facilities will be kept clean and sanitary at all times. The portalets should be located more than 30 meters of an existing water supply well or surface water body and should be located in a place where its odor can reach busy areas of the compound. The portalets should have available water and hand washing facilities. The contents of the portalet pits are collected by the third party portalet provider for offsite treatment and disposal at least on a weekly basis or once contents are almost 2/3 full.

g) Site Security and Safety

The presence of workers in the school or health facility compound may pose risks to peace and order and security of the area. In order to avoid any untoward incident, the contractor will be required to undertake the following:

- Security workers will be assigned to protect the construction sites, project workers and other stakeholders.
- Submit names of workers to the school/health facility and the Barangay.
- All workers will secure IDs or construction work pass from the school/health facility and from the Barangay.
- Restrict entry of unauthorized persons inside the construction site.

h) Worker Health and Safety

Hazards of construction activities may cause adverse effects to health and safety of construction workers. Occupational hazards include ergonomic hazards from carrying/lifting heavy materials and equipment, exposure to excessive and continuous noise, exposure to hazardous materials, hotworks (i.e. welding), working in height and use of scaffoldings, and spread of communicable diseases such as COVID-19. There is slightly elevated risk of COVID-19 transmission when working in health facilities. The contractor will be required to undertake the following:

- Comply with the Labor Code of the Philippines and the Labor Management Procedures developed for the Project including setting up a separate GRM for workers (see Annex E)
- Implement a Construction Safety and Management Plan in compliance with the DOLE OSH guidelines
- Designate an onsite Safety Officer duly accredited by DOLE
- Assign a contact person onsite to receive/respond to complaints from the barangay/community; provide the name/contact number of the responsible person to the Barangay.
- Require workers to wear safety gadgets/PPEs such as hard hats, gloves, safety belts, rubber boots, and goggles, appropriate to the task.
- Post safety signs/reminders in strategic areas within the construction area
- Provide sufficient lighting at night.

- Provide barricades / safety barriers particularly at excavations and stockpiles of aggregates.
- Provide first-aid kit at the construction site to ensure immediate medical attention in case of accidents.
- Comply with the COVID-19 health and safety protocols as defined in Annex H: Safeguards Considerations for Project Implementation during COVID.

DPWH Engineers assigned at the site shall ensure strict compliance to DOLE D.O. 13, series of 1998, and implementation of wearing of PPE such as face masks, safety glasses/goggles, face shields, and long sleeve T-shirts, to contain the spread of COVID-19 in the workplace.

i) Community Health and Safety

The potential risks to health and safety of community associated with the project activities include nuisance from noise, airborne dust, falling debris, and congestion of roads adjacent to the sites during delivery of materials. Some of the schools and health facilities are in community areas which can be accessed through narrow roads. The movement of large delivery truck to these areas may block roads. Although labor influx is not expected, social issues related to harassment or gender-based violence may be encountered within subproject sites and in the communities. In order to manage community and health issues, the following mitigation measures will be implemented:

- Conduct consultations with neighboring communities and Barangay about the project and the schedule of works.
- When working on the exterior of the building, provide safety nets/screens for protection of adjacent properties and passersby.
- Install canopy if the building is next to a road or building that may be affected by falling debris.
- Abide by the Labor Management Procedures developed for the Project.
- Conduct awareness trainings on sexual harassment and gender-based violence among contractors, projectworkers, and students.
- Install effective GRM including for dealing with instances of GBV.

j) Cultural Heritage

The chance find procedure is used in case of accidental discovery of an artifact or fossil of possible cultural or historical significance. The procedure in this ESMF describes a physical cultural resources management plan in the ECOPs that includes measures to avoid or mitigate any adverse impacts on physical cultural resources; measures needed for managing any chance find; and the reporting system to authorities, in compliance with the requirements of the National Cultural Heritage Act of 2009 (Republic Act 10066), National Museum Act of 1998 (Republic Act 8492) and Cultural Properties Preservation and Protection Act (Presidential Decree 374).

C. SUMMARY OF SAFEGUARD PERFORMANCE OF PAST DPWH RETROFIT PROJECTS (2018-2020)

The DPWH has implemented past public building retrofitting projects focusing on national government administration buildings, schools, and health facilities. The DPWH programmed the retrofitting of 37 public buildings in 2018, of which 28 are school buildings and 11 are government buildings using the agency's own budget. In 2019, there were 12 school buildings and 11 health facilities under the DPWH structural improvement/retrofitting program while in 2020, there were 52 buildings for retrofitting. However, release of funds for the 2020 projects are still pending.

As gathered during the meeting with DPWH regional office and district engineering office held on 22 December 2020, there are good practices and key lessons for improvement from previous operations that may be derived and adopted to ensure environmental and social issues and mitigation measures are integrated in the implementation of the PSRRRP. These are discussed as follows:

(i) **Integration of site selection screening and environmental and social screening before and during detailed engineering design.** The environmental and social issues such as temporary disturbance to classes or health facility operation, flooding, traffic, obstructions, historical sites/zones, presence of asbestos materials, and other related issues are not considered during detailed engineering design because the scope of work of the design team is focused on the selection of the retrofitting technology to be applied for the final design. To a certain extent, environmental issues were evaluated such as determining soil conditions, structural condition of building elements, distance to fault line, and age of building, but, these are parameters were needed primarily for design considerations. Based on DPWH experience, there were instances necessitating alteration in design upon discovery of issues by the contractor. Nevertheless, the contractors were required to comply with the DPWH Simplified Construction Handbook for School Buildings and other pertinent manuals that included occupational health and safety requirements and worksite management guidelines. After passing the screening using the site selection criteria, to avoid any unmanaged risks on environment, health, and safety, screening of environmental and social risks and impacts is proposed as part of the activities during detailed engineering design.

(ii) **Strengthening of consultation with school and health facility administration.** The experience of past retrofitting works undertaken by regional and district offices show that delays in implementation were encountered due to the lack of consultation with building administration and local community by the design team during the design of facilities. For instance, in one of the buildings, a transformer power station of the building is an obstruction to undertake the retrofitting activities. Due to the additional work required for the removal and temporary transfer of the power station, a variation of the contractor's contract was implemented but this has caused temporary suspension and delay of work. In another case, the contractor found that the hospital operating room will be affected by retrofitting activities. In the absence of a temporary relocation area for the emergency room, the retrofitting project was put on hold.

(iii) **Best practices on environment and social safeguards for schools and health facilities.** The DPWH recognizes that any construction activity in a school or health facility would create disturbance. Best practices to ensure health and safety of building occupants include (i) scheduling of work on a section-by-section basis, (ii) ensuring that there is a safe area such as quadrangle, gymnasium or vacant rooms in the school or barangay for temporary use as classroom or health facility of affected building section, (iii) avoiding works in schools during examination period; works are preferably done during weekends or school breaks, (iv) undertaking construction works that do not generate excessive noise at night, (v) installation of barricades around the construction area, (vi) wearing of PPEs and provision of identification cards for workers, (vii) assigning of safety officer at the site, and (viii) watering of dusty areas.

(iv) **Building institutional capacity in environmental and social safeguards in different bureaus of DPWH.** The roles of the Bureau of Maintenance (BOM), Bureau of Design (BOD), Bureau of Construction (BOC), and Regional and District Engineering Offices on environment and social

safeguards are crucial in ensuring that mitigation measures are identified and implemented in the various stages of retrofitting project. While it is important to work closely with counterparts at the technical level, the familiarity of these DPWH offices will help ensure that resources are appropriately allocated and responsibilities are clearly defined in every stage of project implementation.

(v) **Provision of sufficient budget for environment, health and safety.** There is no established standard in allocating budget for environment, health and safety mitigation measures. Past retrofitting activities have shown that construction health and safety is a line item where contractors need to provide specific budget for designation of a safety officer, provision of personal protective equipment (PPE) for workers, and monitoring/reporting of accidents and safety incidents. This is in the range of 1.3% to 11.25% of the total cost of retrofitting.

Any delay in project implementation is not solely attributed to the design team's failure to identify impediments to project implementation. The contractor also plays a role in identifying relevant issues to project implementation prior to submission of bids, hence, should be able to conduct prior site due diligence, assess any environmental and social issues and identify mitigation measures to address risks. In this way, the contractor is able to allocate adequate resources for implementation of safeguards mitigation measures. The contractor's capacity to implement safeguards measures will form part of the bid evaluation.

(vi) **Environmental and Social Safeguards Monitoring Through the DPWH Project Contract Management Application (PCMA).** Aside from a independent project construction supervision team, the DPWH has established an online project monitoring system that enables the department to monitor construction schedule, actual work activity, time variance, potential variation order issues, and important project milestones. Infrastructure projects can be geotagged in the PCMA. A key component of the PCMA is the E-log which looks at weather and site condition, equipment, manpower and materials log, and site accident log on minor/major/fatal injuries, causes of project site-related accidents, actions undertaken, and responsible persons on-site. The PCMA online tool can be used to monitor safety issues but a sub-set can be examined further by DPWH for PSRRRP and the implementation of environmental and social mitigation measures.

VI. PROCEDURES TO ADDRESS ENVIRONMENTAL AND SOCIAL ISSUES

Identification and management of environmental and social risks will be mainstreamed into the overall project management procedures for retrofitting. This means that the timing of safeguards activities will be synchronized with how subprojects will be clustered together for screening, contracting and construction. Safeguards screening will be integrated into subproject screening and stakeholder consultations will be prioritized for subprojects that are already sure for implementation. In addition:

(i) Environmental and social objectives will be integrated into the detailed engineering design as part of the planning process. The Terms of Reference (TOR) to incorporate environmental and social objectives into the detailed design will be included in the scope of work of the design consulting team.

(ii) Preparation of site-specific safeguards plans will be done by contractor during the bidding process.

(iii) To avoid raising expectations, stakeholder engagement and information disclosure will be done for buildings that will be in accordance with the identified batches of subprojects.

(iv) Institutional capacity on environmental and social safeguards will be strengthened. Support for capacity building will be promoted through trainings, monitoring and reporting. The timing, participants, and arrangements for trainings will be determined by the batches of subprojects.

Based on the workflow process of the PSRRRP, environmental and social safeguards will take place during subproject selection to check against the E&S prohibited list, during detailed engineering design, procurement of contractor, and during the construction phase when the contractor implements the mitigation measures while the PIU and Implementing Offices (District and Regional Engineering Offices) monitors the progress of work and implementation of safeguards measures. Figure 10 presents the environment and social safeguards process workflow of PSRRRP.

The detailed engineering design team will undertake the environment and social screening through site evaluation and consultations with the building administration and local stakeholders. The screening will help identify the appropriate safeguards mitigation measures commensurate to the risks and impacts of the subproject. These safeguard plans will feed into the bid documents to aid contractors in the preparation of site-specific ESMP/ECOP in their bids and forms part of the criteria for bid selection. Environment and social safeguards continue during project implementation through implementation, monitoring and reporting of mitigation measures. The environment and social management procedure and the responsible units/offices are presented in the succeeding sections and further detailed in Figure 12.

A. SUBPROJECT SELECTION

From an annual list of buildings for retrofitting, the PIU will evaluate these buildings using the SVR while the PIU will conduct the screening using the site selection criteria and the prohibited list in Chapter II(E) of the ESMF.

B. DETAILED ENGINEERING DESIGN

1. Environmental and Social Screening of Impacts and Risks

The selected subprojects, after passing the site selection screening criteria and the negative list, will now proceed to the detailed engineering design (DED) phase where design standards, field surveys and investigations, design plans, design report, technical specifications, quantity and cost estimates, program of work and schedule, contract packages, and bidding documents are prepared. The ES Screening during DED will identify the subproject environmental and social impacts, the ESF safeguard instruments and plans and minimum requirements for a construction safety and health program. The DED may be carried out through a combination of in-house specialists from the Bureau of Design (BOD) in the Central Office or the Planning and Design Division/Section in the Regional/District Engineering Office or outsourced to specialized design consultants. Before any contract for a subproject is procured, it must be supported by a completed and duly approved DED for the subproject and completed and duly approved Bidding Documents for the contract.

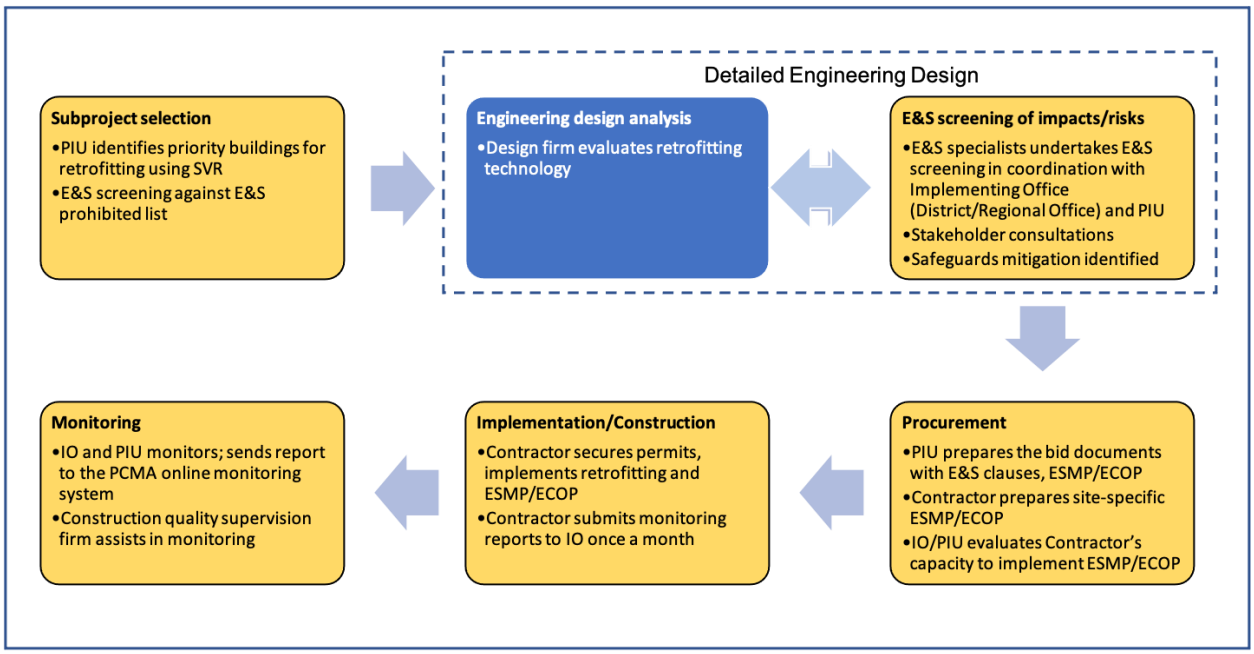


Figure 10: PSRRRP Process Workflow on E&S Safeguards

2. Site Evaluation

The technical design team and environment and social safeguards specialist(s) in coordination with the PIU will work jointly during site investigation prior to selection of the retrofit design. The environment and social safeguards specialist together with the PIU will complete the screening checklist and identify potential environmental and social issues and severity of impacts at the selected site such as:

- Site sensitivities (flooding, proximity to residential areas, hospitals, clinics, places of worship, and historical/cultural site)
- Geology/soils (soil erosion, liquefaction, proximity to fault line, landslides)
- Terrestrial Biology (if project will result to cutting of trees)
- Hydrology (change in drainage flow, inducement of flooding, clogging of canals, sedimentation of creeks/rivers)
- Water resources and utility services (disruption of water supply and electricity, impact on sanitation and sewerage services)
- Waste generation (domestic sewage, non-hazardous solid waste and construction debris, asbestos materials, spent welding electrode rods, paints, adhesives, polymers and other chemicals)
- Air quality/noise/vibration including dust, fumes from adhesives, polymers, and welding activities
- Road and traffic safety (blocking of road access, reduced open space)
- Social impacts (displacement of students, patients, and small businesses, disruption of medical services and classes)
- Public health (effect on community health and safety including sexual harassment and gender-based violence (GBV), spread of COVID-19 and other communicable diseases, effect on occupational health and safety).

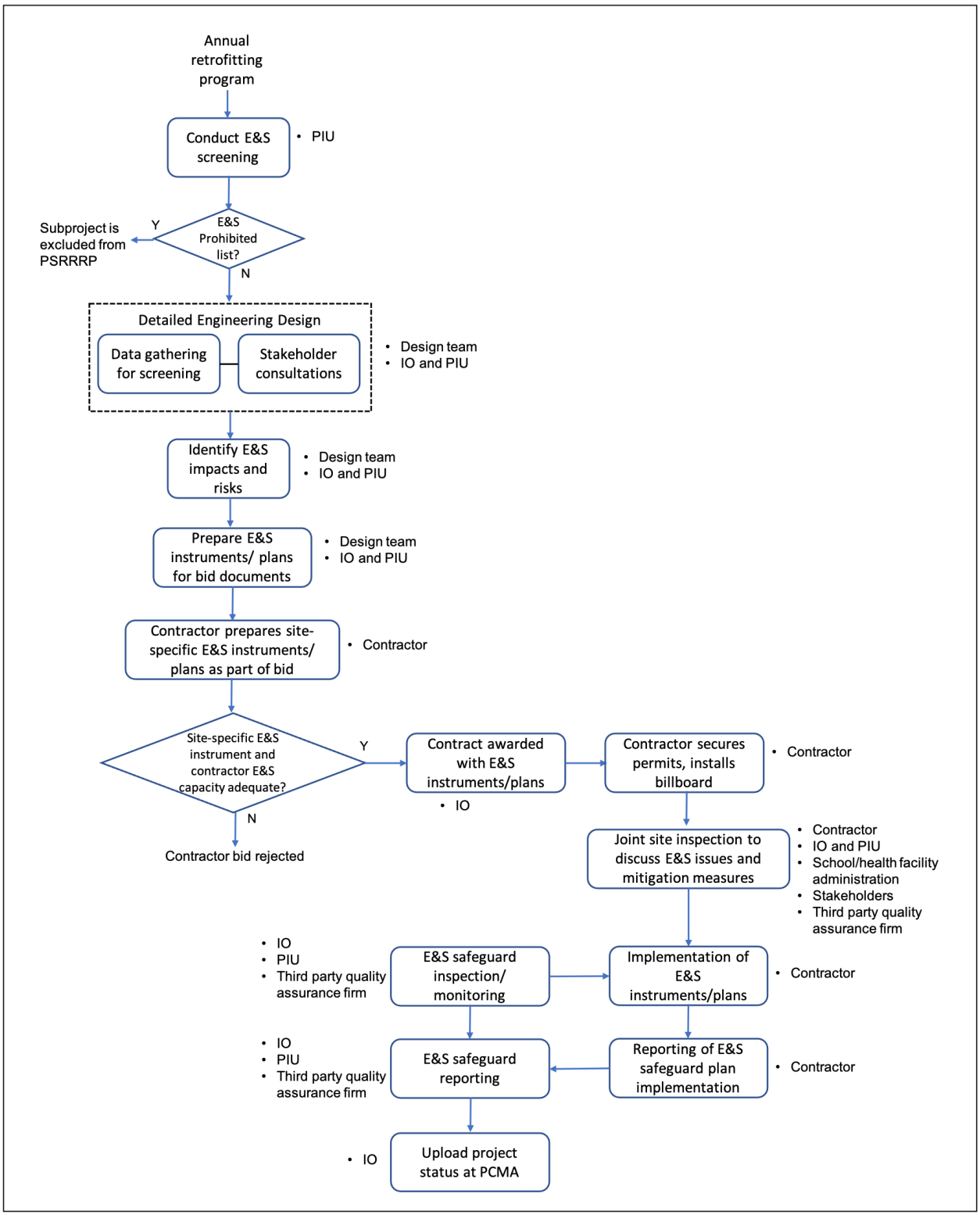


Figure 11: ESMF Process

3. Data Gathering for Screening

As part of the ES risk screening process, consultations with the building administration and its engineering team will be undertaken to further identify environmental and social issues related to the design and implementation of the building retrofits such as schedule and disruption of building services, use of affected area, availability of area for temporary transfer, and building utilities and other obstructions that may be affected. The environment and social safeguards specialist will also identify any community issues related to the project by consulting with local communities and authorities, determining incidences of flooding, availability of road access and materials stockpile area, proximity to sensitive receptors such as residential community and religious places, presence of cultural/historical sites, and any canal or waterway, trees, and economic enterprises (e.g. canteen) that may be affected.

The environmental and social screening process will inform the design team on what measures or actions are needed to avoid, minimize or mitigate these potential impacts and risks. The Environmental and Social Safeguard Screening Checklist in Annex A will be used for screening each subproject. Based on the results of the site evaluation and stakeholder consultations, the level of project impact will be examined if project activities at the site will result to low, medium (manageable) or high (major) impacts. Likewise, the screening will also aid to identify subprojects which are to be excluded based on the prohibited list of activities. As a result of the site-specific screening, the safeguards plans such as Environmental Code of Practice (ECOP), Environmental and Social Management Plan (ESMP), Construction Safety and Health Program (CSHP), as applicable, will be required.

4. Environmental and Social Safeguards in Terms of Reference of Contractor

Once the type of retrofitting technology to be employed and the environmental and social issues inherent at the site have been identified, the design team and PIU will be able to integrate in the DED the appropriate technologies and methods tailored-fit for the actual conditions of the structure and determine the applicable safeguard instruments for the retrofitting activities based on level of impacts and risks that will be generated. In general, retrofitting works result to manageable impacts that can be addressed through the implementation of measures outlined in the Environment and Social Management Plans (ESMP), Environmental Codes of Practice (ECOP) (Annex B). The ECOP and CSHP are the standard safeguards tool for all construction activities and additionally, the ESMP will be developed, as applicable. The LMP (Annex E) and SEP (Annex F) will be applied to all subprojects and there is no need to develop distinct LMPs or SEPs for individual subprojects. The ECOP/ESMP refers to the World Bank Group Environment, Health and Safety (EHS) General Guidelines in managing EHS issues during the construction works. Table 4 describes the applicability of the different safeguard plans.

Table 4: Applicability of Environment and Social Safeguard Plans

Safeguard Plan	Applicability
Environmental Codes of Practice (ECOP)	This serves as the main environment and social safeguard instrument to be used for construction activities. The ECOP is intended to cover all typical and repeating impacts and mitigation measures of retrofitting activities. The ECOP contains mitigation measures to control and manage impacts of dust, air pollution, noise and vibration, water pollution, construction debris, and community and worker health and safety issues. The ECOP for construction activities is presented in Annex B.

Safeguard Plan	Applicability
Environmental and Social Management Plan (ESMP)	The ESMP applies to subprojects that generates medium to high impacts such as major retrofitting activities on foundations, columns, beams, walls, and other related activities. The construction impacts are site-specific and in most cases are manageable. The ESMP contains specific subplans such as the waste management plan (particularly activities generating hazardous waste materials such as asbestos), construction safety and health plan, construction materials transport and storage plan, relocation plan of affected classrooms, traffic management, chance find procedures, and stakeholder engagement plan. The template of the ESMP is outlined in Annex C.
Waste Management Plan (WMP)	The waste management plan is a subplan contained in the ECOP/ESMP. This applies to the generation of non-hazardous wastes such as construction debris and hazardous wastes such as asbestos materials, empty containers of chemicals, solvents, paints, and adhesives.
Construction Safety and Health Program (CSHP)	The CSHP is a set of measures to cover the processes and practices to be utilized at the construction project site by the contractor to comply with the requirements of the Occupational Safety and Health Standards (OSHS) of the Department of Labor and Employment (DOLE). The CSHP is a standard requirement for bidders as required by DPWH Order No. 13, series of 1998 and therefore applies to all subprojects. It contains specific provisions on safety and health of workers, job hazard analysis, wearing of PPEs, workers skills and certification, emergency response, materials and waste handling, protection of general public, and grievance redress mechanism to address workers complaints, among others. The CSHP checklist is shown in Annex D.
Labor Management Procedure (LMP)	The LMP is consistent with the national labor laws and policies and standards occupational safety and health and the WB Environmental and Social Standards ESS2 provisions addressing labor risks and issues that may arise during implementation of the project. The LMP includes GRM for project workers. (Annex E). This will be applied to all subprojects.
Stakeholder Engagement Plan (SEP)	The SEP applies to all subprojects to guide consultations with key stakeholders throughout the different stages from subproject design to implementation. The SEP also contains a GRM for stakeholders which applies to the Project. Annex F presents the SEP.
Grievance Redress Mechanism (GRM)	The GRM is applicable to subprojects where there are affected parties, community members, and other interest groups that may be adversely affected by the implementation of the subproject.
Chance Find Procedure (CFP)	The CFP applies to subprojects that would require excavation activities. The CFP aims to conserve any artifact that may be accidentally discovered during excavation activities following the requirements of the National Commission on Culture and Arts. This is found as a subplan in the ECOP.

The applicable safeguard plans or sections thereof will be included in the bid and contract documents for the contractor and will serve as guidance for the contractor to prepare site-specific plans and allocate resources of safeguard mitigation measures in their bids. The capacity of the contractor to implement the safeguard instruments will form part of the bid selection criteria. The safeguard instruments shall be included in the winning bidder's contract.

C. PROCUREMENT

1. Preparation of Site-Specific ESMP by Contractor

During the bidding process, it is prudent on the part of the Contractor to conduct further site assessment to confirm key environmental and social issues, risks and potential impacts. Site-specific potential issues of subproject development will be evaluated to allow changes or modifications and to better mitigate potential environmental and social risks. Site-specific ESMP/ECOP will be accomplished by the Contractor as part of the bid documents. The DPWH will evaluate the capacity of the Contractors to implement the ESMP/ECOP in the bid selection by referring to the ESMP checklist for bid evaluation in Annex G.

The ESMP/ECOP should be site-specific and proportionate and relevant to the hazards and risks associated with the particular activity. For instance, civil works that entail minor repair and retrofitting activities may comprise of standard management and mitigation measures such as those defined in the ECOPs provided in Annex B. Major retrofitting activities on foundations, columns and beams would involve extensive construction, hence, a more comprehensive ESMP will be necessary that takes into consideration the site conditions. The ESMP will be in matrix form and shall include the proposed risk mitigation measures for each identified environmental and social risk, responsibility for each risk mitigation measure, timeline (e,g, pre-construction, construction), and budget allocated for the implementation of the mitigation measure. The template of an ESMP provided in Annex C may be referred to by the contractor when developing the site-specific ESMP.

The site-specific ESMP will include as attachments other instruments such as the CSHP, GRM, WMP, SEP, PCF, as necessary. The ESMP prepared by the contractor should ensure that all pollution sources arising from the subproject activities during implementation stage will not cause any negative impacts on the environment and public health. Implementation of the risk mitigation measures will be reported and will be a condition for approval of payments of the construction contractor.

2. ESMP for Cluster Contract Package

In situations where cluster of subprojects will be involved in one bid and where a contractor will be working simultaneously on more than one subproject in different locations, the ESMP to be prepared by the Contractor should also detail the implementation of mitigation measures associated with the transport and movement of materials to subproject sites, management of construction camp(s) and materials storage area, capacity and resources for safeguards, and the means of monitoring and reporting of any environment, health and safety incidents.

3. Construction Safety and Health Program

The contractor shall take all reasonable precautions to maintain the health and safety of his personnel based on the Construction Safety and Health Program (CSHP) as shown in Annex D. The CSHP is a standard

part of the bid documents submitted by interested bidders. The CSHP is the main guide of the Safety Personnel on the safety practices, processes, and requirements that should be imposed and incorporated onsite during the retrofitting of the building. The CHSP checklist will guide the PIU in evaluating the completeness of the CSHP of the bidder.

The total cost of implementing a CSHP shall be a mandatory separate line item of the project's construction cost, duly quantified and reflected in the project's tender documents and likewise reflected in the project's construction contract documents.

D. PRE-CONSTRUCTION PHASE

1. Securing of Permits

Prior to start of actual construction, the contractor is required to secure relevant permits for the retrofitting of buildings that may include, whenever applicable, the Barangay Clearance, Building Permit or Renovation Permit, Excavation Permit, Bureau of Fire Protection Clearance, and Certificate of Non-Coverage (CNC) from DENR, whenever necessary.

2. Installation of Project Billboard

Project billboards must be installed for the information of the citizenry about the subproject. The design layout of the billboard must be installed in front of the project site or at a location visible to the public. A standard billboard contains information on the name of contractor, date started, contract completion date, contract cost, construction consultant, implementing office, sources of funds, responsible person to contact in case of complaint.

3. Joint Site Inspection and Consultation

The joint site inspection is conducted at the subproject site once a Notice to Proceed is issued to a contractor or during the pre-construction meeting. The joint site inspection must be participated by the (i) IO's project engineer, project inspector, materials engineer and other key personnel, including the contracted third-party quality assurance firm, (ii) contractor (project manager and other key staff), and (iii) the building owner or end-user (school or health facility administrator, engineering staff, and other personnel). Stakeholders that will be affected by the construction of the subproject (e.g. canteen owner, adjacent residential houses, barangay, etc.) may also be invited during the joint site inspection.

During the site inspection, the areas of concern are discussed and inspected such as:

- Major scope of works of the subproject
- Area for storage or stockpile of materials
- Disposal area for construction debris
- Planned camp site and yard areas
- Temporary relocation of any utility, classroom or health facility
- Potential hazards
- Health and environmental issues and the proposed mitigation measures
- Worker health and safety
- Management of vehicles entering the site
- Work schedule and procedures including work days and working hours

- Project organization and staff assignment.

If particular issues are identified during the joint site inspection, a site-specific ESMP will be designed by the contractor to reflect changes and suggestions resulting from the site inspection and stakeholder meeting. The updated ESMP/ECOP will be approved by the IO (Project Engineer) with assistance of the third-party quality assurance firm and the building owner or end-user (Building Administrator). This will be submitted together with the site general layout reflecting the area covered by the project site and the corresponding locations of camp site, temporary facilities for materials stock area and waste/debris collection area, barricades/fences, and area for mobility of equipment at site.

In general, the following requirements for site mobilization should be completed by the contractor and duly approved by the IO prior to commencement of works:

- Permits for construction
- Site billboard
- Site general layout approved by the IO and building end-user (school/health facility)
- Construction plan and work schedule/phasing
- Updated ESMP / ECOP and other applicable safeguard instruments
- CHSP.

E. CONSTRUCTION PHASE

1. Implementation of Environmental and Social Safeguard Plans

The Regional/District Engineering Office of DPWH as Implementing Office (IO) with assistance of the third-party construction supervision/ quality assurance firm will be responsible for ensuring that the contractor implements the site-specific ESMP/ECOP. The contractor, in coordination with the public facility administrator, shall take all reasonable steps to protect the environment on- and offsite and to avoid damage or nuisance to persons or properties. The site should be barricaded and should be kept free from obstructions like materials and debris that would cause untoward incidents and accidents or block drainage. The IO may issue orders suspending work of the contractor in case of unsafe work conditions that may compromise the safety and health of workers and the general public. Work may resume only when corrective actions have been implemented by the contractor.

The contractor will be required to stipulate measures to protect workers and community against spread of communicable diseases, particularly COVID-19 virus by following the COVID-19 Protocols in Construction/Civil Works as outlined in Annex H.

2. Inspection, Monitoring, and Reporting

<u>Contractor Monitoring and Reporting</u>

A project daily activity logbook/construction logbook will be maintained at the site to detail the daily activities at the site. The contractor will be tasked to prepare the logbook that contains information on the date, weather/weather chart, manpower, equipment, construction activities for the day, site visitors, issues and problems encountered, recommendations and actions taken, complaints received, and accidents and safety incidents. The daily construction logbook will be checked by the IO and PIU during

routine monitoring. A sample template of the daily activity logbook/construction logbook is presented in Annex I.

IO and PIU Monitoring

Timely and effective monitoring is fundamental to ensure compliance and facilitate adaptive management. The monitoring of implementation of the mitigating measures by the contractor as contained in the site-specific ESMP/ECOP shall be the responsibility of the IO, to be supervised by the PSRRRP safeguards team. The IO with assistance of a third-party construction quality assurance firm shall routinely monitor subproject activities to check the progress of works, ensure that the works are in accordance with plans and specifications, and if environment, health and safety measures as embodied in the ESMP are being properly implemented. The IO and PIU through the Safeguards Monitoring Section will also evaluate onsite conditions and inspect work camps, materials yard, and waste storage and disposal site. The IO and PIU will check on workers' health and safety and the overall sanitation and housekeeping practices at the worksites and meet with the school/health facility administration and adjacent community to inquire on any issues that they may have about the subproject activities. The Environment and Social Safeguard Site Instruction Form and Inspection Checklist (Annex J) will be filled out by the IO to document findings during the site visit. Adverse findings during site inspections will be relayed immediately to the contractor through the site instruction so that corrective actions are implemented and closely monitored.

The IO, with assistance of the construction supervision/ quality assurance firm, will submit to PIU monthly project status report containing information on the progress of project construction, materials logbook, weather chart, together with compilation of monitoring charts, status reports, environment and social safeguard site instructions and inspection checklists, minutes of meetings, and correspondences. The IO will upload the project monitoring information at DPWH's Project Contract Management Application (PCMA) online monitoring system as shown in Annex K. The PCMA allows geotagging of a project.

At the end of the construction activities, monitoring will be conducted to check whether the site has been satisfactorily restored. The site should be free of pollution and hazards left over from construction. The result of the inspection is critical because it may become the basis whether the project may be turned over by contractor or not.

VII. Public Consultation and Disclosure

The Stakeholder Engagement Plan (SEP) has been developed to ensure that stakeholders are informed about the project, its risks and impacts, and the mitigation measures to address any adverse effects to stakeholders and communities. The project includes a participatory and consultative approach in engaging stakeholders as described in the SEP in Annex F.

Stakeholder consultations consist of two stages. First, during project preparation, relevant government agencies particularly the DOH and DepEd were consulted on the project design and overall implementation arrangements including on environment and social risks and their roles in managing these risks. National-level consultations among non-government entities were also conducted to solicit feedback on project design and to inform them on the selection process for the buildings to be retrofitted. Second, during project implementation, consultations will involve subproject-specific stakeholders including administrations of school and health facilities, nearby communities, relevant LGUs, affected building users such as students, patients and small businesses or concessionaires. Consultations will be on site-specific social and environmental risks including measures to minimize disruption of classes and canteen services.

The SEP was disclosed in the DPWH website prior to appraisal together with all other safeguard documents and instruments such as the ESMF, LMP, and ESCP. Details of disclosure requirements as well as grievance redress procedures are included in the SEP.

In the time of Covid, information dissemination and public consultations still need to be conducted. To ensure that these activities remain safe, the guidelines for public consultations discussed in Annex H need to be adhered to.

VIII. INSTITUTIONAL ARRANGEMENTS, RESPONSIBILITIES AND CAPACITY BUILDING

A. PROJECT IMPLEMENTATION TEAM

The implementation of the ESMF will be consistent and aligned with the project implementation arrangements to ensure that identification and mitigation of risks are incorporated efficiently throughout subproject implementation. This includes the clustering of buildings to be retrofitted where screening and assessments will be programmed according to how the overall project will be grouping the contracts/construction of the buildings.

Safeguards functions will be carried out by designated DPWH staff, through institutionalized safeguards units that perform these functions for World Bank (and other development partners) funded projects. In addition, DPWH has a robust field supervision system with well-staffed and qualified Regional/ District Engineering Offices (RO/DEOs), which will be responsible for field monitoring of retrofitting works from pre-works to completion/ acceptance. These functions will be carried out as an in-kind contribution of DPWH staff time, in accordance with the established institutional structure that is utilized for largescale civil works projects (including the 2018-2020 retrofitting program).

Generally, oversight for the Project will be by the DPWH ER-PMO. Particularly, all pre-construction activities of the project will be managed by the Project Preparation-Technical Working Group (TWG) and the Project Implementing Unit (PIU) will supervise the implementation of the project and subprojects. The DPWH Regional Offices (RO) or District Engineering Offices (DEO) shall serve as the implementing office for the subprojects. Figure 12 shows the proposed organizational set-up for the preparation and implementation of the PSRRRP.

A designated Safeguards Monitoring Section (SMS) under the PIU shall be created that will ensure the proper and strict implementation of the ESMF throughout the project cycle. The SMS will be staffed with designated DPWH Safeguards Specialists as internal evaluators and specialists from other interested parties (stakeholders like DepEd and DOH) as external evaluators. The Implementing Offices will also assigned EHS/safeguards focal persons while the contractor will be required to appoint a PCO or EHS Officer that will be the focal person on safeguard matters. Table 5 summarizes the tasks and institutional responsibilities for the project and subproject safeguards implementation.

Table 5: Tasks and Institutional Responsibilities for Safeguards Implementation

Safeguards Activities	Task Description	Form/ Document	Responsibility	Supervision
Subprojects Identification	▪ Conduct screening using site selection criteria ▪ Identify priority buildings (based on Seismic Vulnerability Rating) are proposed for seismic retrofit under this project.	List of Priority Buildings	▪ PSRRRP Project Preparation-TWG	▪ DPWH ER-PMO
Environmental and Social (ES) Safeguards Screening	▪ Assess and describe any potential ES safeguard issues before final selection and early in the project preparation stage. ▪ Undertake safeguard preparation plans as required, such as consultations with local communities and/or collection of data. ▪ Conduct a site-specific limited Environmental and Social Impact Assessment (ESA).	• Site selection Criteria • ES Screening Checklist	▪ IO ▪ Supported by design consultant team's environment & social specialist	▪ PSRRRP-PIU

Safeguards Activities	Task Description	Form/ Document	Responsibility	Supervision
Safeguard instruments	▪ Select appropriate safeguards instruments that would be required to assess and manage the potential impacts.	ESMP/ECOP and other instruments	▪ IO ▪ Supported by design consultant team's environment & social specialist	▪ PSRRRP-PIU
Implementation	▪ Prepare site-specific ESMP ▪ Monitor and record implementation of ESMP/ECOP	Site-specific ESMP/ECOP	▪ Contractor	▪ IO ▪ PSRRRP-PIU
Monitoring and Evaluation	▪ Evaluate the implementation and outcomes of ESMP. ▪ Recommends modification if necessary.	Site-specific ESMP/ECOP	▪ IO ▪ Contractor	▪ PSRRRP-PIU

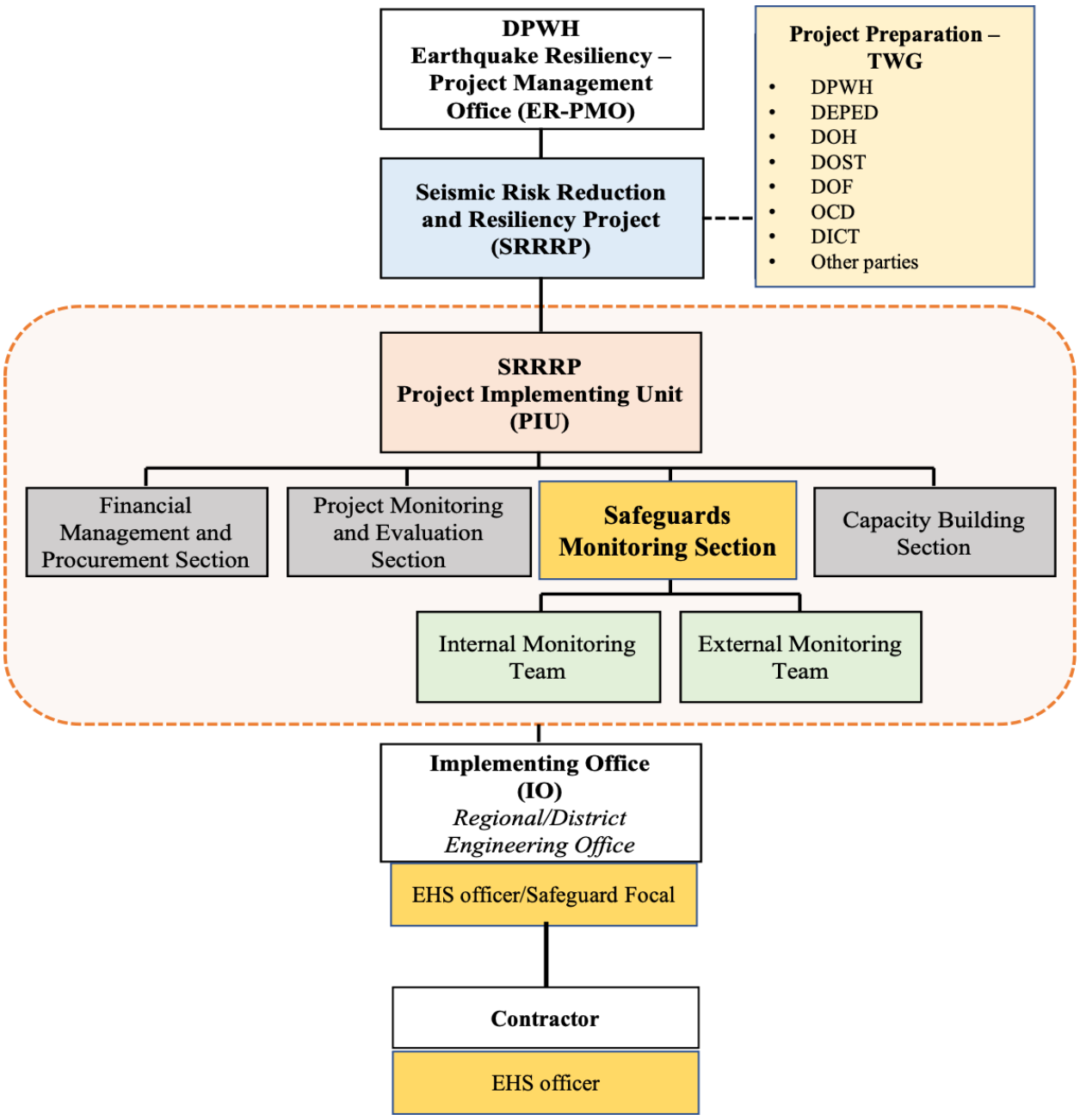


Figure 12. Proposed PSRRRP Organizational Structure with E&S Safeguards Units

B. CAPACITY BUILDING

DPWH as the project proponent recognizes the knowledge gaps in the application to the proposed PSRRRP of the latest environmental and social safeguards guidelines of the Bank, particularly the new WB ESF. Moreover, the PSRRRP is the first Bank-financed project of the department that included the application of environmental and social instruments for a retrofitting project.

It is vital that institutional and capacity development are provided for environmental and social safeguards guidelines, safeguards frameworks, capacity building trainings and other measures for ensuring that the knowledge gaps are immediately addressed for development of the subprojects, from project preparation to implementation stage. Technical assistance activities such as trainings and workshops, are deemed necessary to enhance knowledge and technical skills of the key project personnel (safeguards specialists among others) in the application of environmental and social safeguards to the project that will lead to more effective implementation and monitoring of safeguards instruments.

During the detailed engineering design, the design team will be required to designate an Environment and Social Safeguards Specialist that will assist the IO and PIU in screening environmental and social issues of subprojects as well as in developing the ESMP/ECOPs and other relevant safeguard instruments that are necessary for the bid documents. The specialist will also be provide training to the IO, PIU, and other offices of the DPWH.

Table 6 below summarizes the proposed trainings and workshops for the PSRRRP key personnel and other stakeholders needed to strengthen capacity. Additional staffing requirement of project-based hired Safeguards Consultants might also be considered if necessary during implementation, to augment the personnel of the project for better and efficient implementation and monitoring.

Table 6: Proposed Trainings and Workshops for the PSRRRP Key Personnel

No.	Training/Workshop Topics	Target Key Personnel
1	Introduction to World Bank ESF	All PSRRRP and IO concerned personnel
2	Overview of ESMF	PSRRRP-PIU (SMS) and IO concerned personnel
3	ESMP/ ECOP Preparation and Monitoring	PSRRRP-PIU (SMS), IO concerned personnel
4	LMP and SEP Preparation and Monitoring	PSRRRP-PIU (SMS) and IO concerned personnel
5	Project Orientation and Risk Awareness (Project Stakeholders)	Project Stakeholders
6	Risk Awareness Orientation (Project Workers)	IO concerned personnel and Contractor
7	GBV and SEA Orientation	IO concerned personnel and Contractor

C. BUDGET FOR ESMF IMPLEMENTATION

Since the technical details of the subprojects have not yet been finalized, an estimated lump sum amount has been allocated for the implementation of the ESMF as presented in Table 7. The ESMF budget will be updated once the subproject components and implementation arrangements have been finalized.

Table 7: Proposed budget for ESMF Implementation

Activity	Estimated Budget
Screening of subprojects (site evaluation, consultations)	$20,000/year
Preparation of ESMP and other instruments at detailed design	$5,000

Activity	Estimated Budget
ESMP monitoring and reporting	$20,000/year
Training and capacity building on ESMF implementation	$10,000/year
Salary of environment and social safeguard specialists at PIU	$50,000/year
Salary of EHS focal person at IO	$50,000/year
Technical assistance (3 man-months international consultant) for Year 1	$60,000

ANNEXES

Annex A
Environmental and Social Safeguard Screening Checklist

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Bonifacio Drive, Port Area, Manila

Philippines Seismic Risk Reduction and Resilience Project (PSRRRP)

ANNEX A

ENVIRONMENTAL AND SOCIAL SAFEGUARD SCREENING CHECKLIST

January 2021

PART I. Basic Project Information

<table>
<tr><td>1. Name of Project</td><td colspan="4"></td></tr>
<tr><td rowspan="2">2. Project Location</td><td colspan="2">Street/Sitio/Barangay</td><td colspan="2">Zone/Classification (i.e. residential, commercial, industrial, mixed-use)</td></tr>
<tr><td colspan="4">City/Municipality</td></tr>
<tr><td>3. Type of Facility</td><td colspan="2">☐ School</td><td colspan="2">☐ Health facility</td></tr>
<tr><td rowspan="3">3. Contact Person at School/Health Facility</td><td colspan="2">Name</td><td colspan="2">Designation</td></tr>
<tr><td colspan="2">Landline No.</td><td colspan="2">Fax No.</td></tr>
<tr><td colspan="2">Mobile No.</td><td colspan="2">Email Address</td></tr>
<tr><td colspan="5">4. Building Condition</td></tr>
<tr><td colspan="2">No. of Floors:</td><td colspan="3">Total Estimated Floor Area:</td></tr>
<tr><td colspan="2">Estimated Number of Occupants at any given time:</td><td colspan="3">Year Constructed:</td></tr>
<tr><td colspan="5">5. Proposed Project Activities</td></tr>
<tr><td>☐ Retrofitting
o Columns
o Beams
o Roofs
o Windows
o Partition</td><td>☐ Area Affected by Retrofitting
No. of Floors: _____
Floor area: _____ sqm

☐ Retrofit Technology and Activities to be Employed
o Steel plate bonding
o Concrete jacketing
o Steel jacketing
o Fiber reinforced polymer system
o Concrete injection on cracks
o Epoxy injection on cracks</td><td rowspan="2">Duration of Construction Works
☐ Mobilization & Establishment of Worksite
o <1 week
o 1 – 2 weeks
o 3 – 4 weeks
☐ Construction
o 1 – 2 months
o 3 – 6 months
o > 6 months
☐ Demobilization
o <1 week
o 1 – 2 weeks
o 3 – 4 weeks</td><td rowspan="2">☐ Estimated cost</td></tr>
<tr><td>☐ Functional improvements (affected by retrofitting)
o WASH
o PWD ramps
o Ingress and egress
o Drainage improvement</td><td>☐ Area Affected by Functional Improvements
Floor Area: _____ sqm
Specific Sections of Building:
_____</td></tr>
</table>

○ Fastening of ceilings, partitions ○ Fire-safety ○ Others: _____			

6. Description of Project Site and Surrounding Communities

Questions	Yes/ No	If yes, Physical descriptions	Remarks
☐ Is the project located next to a residential community?			
☐ Are there be hospitals and health clinics with lying-in services located next to the construction site that may be affected by dust, noise, traffic, and construction-related nuisance?			
☐ Are there be religious places (churches, mosques, etc.) located next to the construction site that may be affected by dust, noise, traffic, and construction-related nuisance??			
☐ Is there enough open area within the school/health facility compound for storage of construction materials and for parking of construction vehicles?			
☐ Is the school/health facility fenced?			
☐ Is the road going to the site wide enough to accommodate construction vehicles?			
☐ Is the building declared as historical landmark?			
☐ Are there culturally/historically important buildings or areas within 1 km from the site?			
☐ Are there asbestos roofing and other asbestos materials to be removed from the site?			
☐ Is the project located next to a waterway, i.e. canal, creek, river?			
☐ Is there drainage system at the site and surrounding area?			
☐ Is the project site affected by flooding? If yes, how frequent in a year? Describe extent of flooding?			
☐ Is the site located in area prone to tsunami and storm surge?			
☐ Is there a canteen or other economic enterprises inside the project compound that may be affected during construction?			
☐ Are there trees to be removed/affected by the construction?			
☐ Are there available solid waste management services in the locality?			
☐ Are there available hazardous waste transport and treatment services in the locality?			

PART II. Environment and Social Impacts Screening Table

Environmental and Social Impacts	Indicate level of project impact			Identify mitigating measures
	High *(major impact)*	**Medium** *(manage-able)*	**Low** *(minimal)*	
ENVIRONMENTAL IMPACTS				
Site sensitivity				
Flooding				

Environmental and Social Impacts	Indicate level of project impact			Identify mitigating measures
	High *(major impact)*	**Medium** *(manage-able)*	**Low** *(minimal)*	
Proximity to residential areas, hospitals, lying-in clinics, and churches/mosques				
Building is declared as historical site				Part of negative list
Site is located within 1 km of a known historical/cultural site				
Geology/Soils				
Soil Erosion				
Liquefaction				
Proximity of fault line				
Landslides				
Terrestrial Biology				
Cutting of trees				
Hydrology				
Change in drainage flow				
Inducement of flooding				
Clogging of canals				
Sedimentation of creeks, rivers				
Water Resource and Utility Services				
Project will result to temporary disruption of water supply				
Project result to temporary disruption of electricity				
Impact on existing sanitation and sewerage services				
Waste generation				
Domestic sewage				
Non-hazardous solid wastes and construction debris				
Asbestos materials				
Spent welding rods				
Spent paints, adhesives, polymers, other chemicals				
Air Quality/ Noise / Vibration				
Air pollution				
Dust				
Fumes from adhesives and polymers				
Fumes from welding activities				
Increase in noise				
Increase in vibration				
Road and Traffic safety				
Traffic congestion/blocked roadways				
Reduced open space				
SOCIAL IMPACTS				
Land acquisition and Involuntary resettlement				
Land Acquisition				Part of negative list

Environmental and Social Impacts	Indicate level of project impact			Identify mitigating measures
	High *(major impact)*	**Medium** *(manage-able)*	**Low** *(minimal)*	
Relocation of private households				Part of negative list
Relocation of informal settlers				Part of negative list
Displacement of students				
Displacement of small businesses (ie. Canteen)				
Displacement of patients				
Disruption of medical services				
Disruption of classes				
Public health				
Effect on Community health and safety including sexual harassment and GBV				
Effect on Occupational health and safety				
Spread of Communicable Diseases, i.e. COVID-19				

Based on the above screening, the applicable safeguard measures to be developed for the subproject are:

- ☐ **Environmental Code of Practice (ECOP)** – applicable to activities generating low (minimal) impacts
- ☐ **Environmental and Social Management Plan (ESMP)** – applicable to activities generating medium (manageable) to high (major) impacts
- ☐ **Waste Management Plan**
- ☐ **Construction Safety and Health Plan**
- ☐ **Grievance Redress Mechanism**
- ☐ **Stakeholder Engagement Plan**

Note that the applicable safeguards measures are to be included in the bid and contract documents of the contractor.

Prepared/Submitted by:	Approved by:	Noted by:
Signature over Printed Name	*Signature over Printed Name*	*Signature over Printed Name*

ANNEX B

ENVIRONMENTAL CODES OF PRACTICE (ECOP)

Annex B: Environmental Codes of Practice

I. Introduction

The Philippine Seismic Risk Reduction and Resiliency Project aims to enhance the safety and seismic resilience of selected public buildings and facilities in Metro Manila through the structural strengthening and functional upgrade of public buildings which are selected and prioritized based on a transparent, well-designed, and cost-effective approach to retrofitting. The project aims to contribute to an overall reduction of the impacts of earthquakes (particularly "The Big One" scenario) on the portfolio of critical public facilities.

The retrofitting of buildings will be for existing public schools and health facilities. The improvements are expected to bring in substantial benefits to the structural stability of buildings and to the safety of its occupants. However, the construction activities may also lead to adverse social and environmental impacts such as disturbance or nuisances to the building occupants and surrounding communities, triggering the need to develop the Environmental Codes of Practice (ECOP).

II. Purpose of the ECOP

The ECOP aims to provide guidance to the planning and implementation of the mitigation measures to be carried out by the Project Implementing Unit (PIU), Implementing offices (IOs) and contractors during civil works activities. It sets out the standard practices and procedures for managing the potential negative impacts on local environment and communities of all civil works to be carried out through measures to prevent adverse environmental impacts including monitoring and institutional arrangements on safeguards. The responsible parties are expected to follow these procedures and keep records and documentation of implementation of mitigation measures for periodic audits. The ECOP will be included as a separate annex in all bidding documents.

The ECOP is applicable to most construction and retrofitting activities. If significant impacts are identified based on the environment and social screening in Annex A, the ECOP is supplemented by the Environmental and Social Management Plan (ESMP) to address the site-specific impacts that have been identified. The ECOP contains the following sub-plans:

1. ECOP 1: Temporary Relocation of School Classrooms, Health Facility and other Building Utilities
2. ECOP 2: General Construction Site Management
3. ECOP 3: Worker's Health and Safety
4. ECOP 4: Community Health and Safety
5. ECOP 5: Cultural Properties

III. Responsibilities

The contractors at the site level are the key entities responsible for the implementation of the ECOP. The IO and PIU, particularly the Safeguard Monitoring Unit and their focal persons, are responsible for supervision and monitoring of implementation of ECOPs.

ECOP 1: Temporary Relocation of School Classrooms, Health Facility and other Building Utilities

All the buildings (schools and health facilities) targeted under the project have social significance and therefore construction activities will have the potential to disrupt education and healthcare services and temporarily interfere with youth development or provision of care needs. The construction activities usually occur within a period of 6 – 8 months, hence, the location of temporary classrooms and health facilities should be well-planned to ensure continuous operation of the building services.

A. Consultations

The PIU, IO, and the design team should consult with the building administrators and other stakeholders such as faculty, medical staff, engineering staff, including students, patients and parents to hear their issues and concerns and preferences during programming of the project. This will be done during the detailed engineering design and prior to the start of any construction activities. Barangay and neighboring communities will also be consulted to inform them about the proposed project and to get their comments on proposed measures to management impacts and nuisance. Collaboration with representatives from the community in planning the temporary relocation site should be maximized to identify safe sites. The local government leaders may help provide suggestions on temporary relocation sites for school classrooms and health facilities if there are no available areas within the existing school or health facility compound.

There may also be economic enterprises inside the health facility or school that may be temporarily affected during the retrofitting of the building. The canteen operators must also be consulted during the planning of the project.

The site survey and consultations aim to identify ways to minimize disruption of operation of the building and to develop an acceptable program of activities and the temporary relocation areas for classrooms, health facility, and other affected utilities.

B. Guidance on Selecting Areas for Temporary Classrooms

The project will keep in mind the health and safety of the surrounding areas to ensure that the temporary school site is conducive to learning of students.

- The site shall preferably be set up within the school compound in available rooms and areas of the school building that are not subject to retrofitting such as library, gymnasium, and quadrangle.
- Discuss with the school administration and stakeholders the implementation of flexible class schedules such as class shifts, weekend classes, and extension of classes during school breaks.
- Avoid locating the temporary classrooms near the main entrance where vehicles and materials delivery and other construction services may take place.
- Select a site with roofing or shade to protect teachers and students from exposure to sun or rain.
- Examine safety of the site and check against any hazardous areas such as noisy areas, falling debris, diggings, open electrical wires, and dusty surroundings.
- Provide temporary barricade for the classroom.
- Ensure that the temporary classroom has access to toilet facility.
- Ensure that the temporary area is provided with adequate lighting and ventilation.
- Ensure that there is provision for mobility of handicapped/disabled persons at the temporary site.

B. Guidance on Selection of Areas for Temporary Health Facility

The temporary site for the health facility will enable continued health services during the period of retrofitting of sections of the building. It is the responsibility of the PIU and IO to closely coordinate with the health facility administration on relocation planning to identify the critical use of affected rooms, the number of patients and occupants needing to be relocated, important utilities and equipment that may be affected (e.g. power supply which are essential to powered life support equipment), and other limitations in the movement of critical care. The identification of the temporary health facility site should allow for provision of appropriate/safe delivery of care and services but recognize that expectations of service delivery at a receiving site may have to be revised. Interim measures to be considered during planning may include:

- Identify areas in another wing of the health facility as temporary sites for the affected sections of the building.
- If there are no areas available within the compound, consider the staging of temporary care area at local government or community facilities such as Barangay centers, gymnasiums, and covered court. Consider other appropriate accommodation facilities such as hotels as temporary sites.
- Plan the movement of essential equipment and consumables to the temporary sites where possible to support health service delivery including staff/resource support and specialized equipment needed.
- Ensure that beds and other equipment at the temporary site can be accommodated to the most appropriate clinical care and requirement.
- Plan for the temporary reduction of healthcare service system load by establishing a diversion of patient transfers to other nearby public health facilities.
- If the Emergency Department section will be affected by the building retrofitting, adopt a “See, Treat, and Transfer (STT)” model of clinical care that focuses on providing health service that can support walk-ins and emergencies of time critical nature, implement immediate attention and intervention, before deciding on referral or transfer to another suitable facility.
- Ensure security of the temporary health care facility site and that movement of patients and staff through the facility is safe.
- Develop a system of informing the staff and the general public about the temporary disturbance and the relocation of the affected site.
- Ensure that the temporary site is well-ventilated and has functioning utilities for water, power, and sanitation.
- Put up safe barricades and signages for guidance of the general public in finding the location of relocated medical services.

C. Guidance on Selection of Areas for Temporary Canteen

There may be instances where the canteen and other food concessionaires of the school or health facility may be affected by the building retrofitting activities. These economic enterprises or businesses are expected to be temporarily relocated within the same compound for continued operations and to avoid livelihood impacts. Consultation with the canteen operator /concessionaire should be conducted during the planning process to ensure that income of the operator and its staff are not adversely impacted. The following are considerations in the planning of the temporary site for the canteen:

- The temporary site must have safe and sanitary area for food preparation.
- The area must have access to electricity, water, and toilet.

- The temporary site must have safe and comfortable ventilation, lighting, flooring, and walls/barricade.
- There must be sufficient floor space for food preparation, food service, and passageways of people.
- There must be provision for waste bins.

ECOP 2: General Construction Site Management

The ECOP on construction site management provides the overarching guidelines with regards to construction and civil works to implement the building retrofitting activities and functional improvements, including removal of obstructions, installation of scaffoldings and falseworks, chipping of concrete and stripping down of targeted structures (walls, ceilings, columns, beams), welding and steelworks, concreting, application of epoxy, and finishing and restoration works. This ECOP on site management sets out the measures to be applied to mitigate the potential impact of site activities to the building occupants, local residents, roads, and communities in the immediate vicinity of the project site. The code refers to the requirements of the World Bank General Environment, Health and Safety (EHS) Guidelines and national laws and regulations.

The requirements of the ECOP on construction site management shall be carried out by the contractor under the supervision of the IO and PIU. Further specific measures for each site may be identified through the preparation of the site-specific ESMP by the contractor.

A. General Requirements Prior to Construction

Prior to site mobilization, the contractor together with the IO and PIU will conduct the joint site inspection and consultation with the building owner or end-user of school or health facility (administrator, engineering staff, and other personnel) as well as affected stakeholders (e.g. canteen, adjacent residential houses, barangay) to discuss and identify areas of concern such as: area for storage of stockpile of materials, disposal area for construction debris, planned camp site and yard areas, temporary relocation of any utility, classroom or health facility, health and environmental issues, potential hazards, vehicle and security management, programming of work schedule, and project organization and staff assignment. During the site inspection, the Environment, Safety and Health (EHS) Officer of the contractor in coordination with the Safeguards Monitoring Unit and assigned EHS Focal Person at the IO will identify and discuss with the stakeholders the site readiness requirements and the measures to be implemented to manage impacts and disturbance. Mitigation measures will be designed to include details of the controls with regard to general site layout and operations, working hours, drainage, site lighting, security, emergency planning and response, and worker access and safety. Whenever feasible, the program of the retrofitting works must be planned in a section-by-section basis to minimize disturbance.

The contractor will prepare the site-specific ESMP/ECOP and site general layout reflecting the area covered by the project site and the corresponding locations of camp site, temporary facilities for materials stock area and waste/debris collection area, barricades/fences, and area for mobility of equipment at site.

B. Prohibitions During Construction

The following activities are prohibited on or near the project site:
1. Cutting of trees for any reason outside the approved construction area;
2. Use of unapproved toxic materials, including lead-based paints, asbestos, etc.;

3. Deposition of chemicals, sanitary wastewater, spoil, waste oil, and concrete agitator washings in watercourses;
4. Disturbance to anything with archaeological or historical value;
5. Use of alcohol and prohibited drugs by workers at the workplace;
6. Employment of workers under the age of 18;
7. Discrimination regarding recruitment, wages and compensation.

C. Requirements During Construction

1. Materials Management

Materials that will be utilized for the retrofitting of buildings and construction of functional improvements include cement, epoxy, aggregates, sand, steel braces/jackets, and reinforcing steel. The bulky materials (cement bags, aggregates, sand, steel braces/jackets and reinforcing steel) will require some space within the site, hence, a materials management plan is necessary to avoid disturbance and ensure safety in the construction site. During delivery of the materials at the site, spill of materials while in transit may cause also road accidents. The following materials management measures are proposed:

- Where possible, avoid stockpiles by only ordering the supplies needed.
- Stockpiles of aggregates and sand should be placed at least 10 meters away from any canal or surface water.
- Stockpiles of aggregates should be provided with sediment control measures such as silt traps.
- Cement bags should be covered with tarpaulin.
- Coordinate the schedule of delivery of materials with the school/health facility administration.
- Ensure that materials stockpiles are placed in safe and secure area within the facility that is approved by the school/health facility administration.
- Schedule delivery of materials on a weekly basis to limit movement of delivery vehicles to the site.
- Provide barricade on stockpile of materials
- Provide spill kit on site for oils.

2. Waste Management

Wastes that will be generated during the construction activities will include debris such as excavated soil for foundation works, concrete debris from chipping and stripping down of structural parts, pieces of rebars, wires, nails, broken glass, wood, pipes, empty containers of paint, solvents, strippers, epoxy resins, adhesives, degreasers, oily rags, used oil, spent welding electrode sticks/rods, busted lamps, among others. The excavation of substructure and foundation may also result to cut soil. There may also be food wastes generated by workers and other ordinary solid wastes (bits of paper, plastics, and packaging materials). Except for the empty containers of paints, solvents, epoxy resins, adhesives, degreasers, oil rags, and busted lamps which are classified as hazardous wastes, most of the wastes are considered as inert and non-hazardous wastes.

Before construction, a solid waste management procedure (storage, provision of bins, site clean-up schedule, bin clean-out schedule, etc.) must be prepared by the contractor. Arrangements with a solid waste transporter licensed by the local government must be obtained. Likewise, a temporary site for the waste area that is recommended/approved by the school or health facility at the site must be identified beforehand where waste segregation containers will be provided by the contractor. Waste containers shall be provided with cover to avoid tipping by animals.

After a day's work, workers are required to clean the work area. All materials and tools are stowed accordingly in preparation for the next day's work. This will also enhance efficiency and assist in maintaining a safe environment when workers return to work the next day. Wastes are properly sorted and disposed of in different waste bins or garbage containers.

Discussed in the succeeding sections are the measures to manage the different types of wastes during the retrofitting activities.

Non-Hazardous Waste

The non-hazardous waste should be placed in waste segregation bins such as for biodegradable waste (food wastes), recyclable waste (wires, pipes, rebars, and other pieces of metal), and hazardous waste. Excavated soil will be used as filling materials while other recyclable materials such as wooden planks may be used for formworks and scaffolding. The recyclable materials will be collected and separated onsite from other waste sources for reuse or for sale.

Burning of garbage and construction wastes shall be strictly prohibited at the site. Likewise, access by unauthorized personnel at the worksite should be controlled. Materials which are clearly a danger to building occupants e.g. exposed nails, broken glass, steel beams etc. should be properly collected to avoid accidents. Work areas will be maintained clear of waste materials and obstructions. Stockpiles of waste materials will not be allowed, instead, the wastes will be compacted and kept out of the way in accordance with the Occupational Safety and Health Program per DWPH D.O. 13 series 1998.

Hazardous Waste

Hazardous waste should always be segregated from the non-hazardous wastes. Designate an area for the temporary storage of empty containers (paints, solvents, epoxy resins, adhesives, degreasers), oily rags, and busted lamps. Proper labels should be affixed on these types of hazardous wastes. As a hazardous waste generator, the contractor is required to secure a Hazardous Waste Generator Registration with the DENR and to commission the services of a DENR-registered hazardous waste transporter and treater for the collection and disposal of hazardous wastes. A Hazardous Waste Manifest must be completed to document the amount of hazardous waste generated and collected/disposed for offsite treatment. The DENR-recognized treater should issue a Certificate of Treatment (COT) ascertaining the safe treatment and disposal of the hazardous waste. The COT records shall be kept for proper documentation.

Asbestos Containing Materials

There may be situations wherein the affected building section may contain asbestos materials as high-density products in roofing and flat sheets/walls of existing building. The use of amosite (brown) and crocidolite (blue) asbestos fibers and of products containing these fibers is strictly prohibited and that no spraying of all forms of asbestos in buildings is allowed. The contractor must undertake specific precautions if materials containing asbestos are present or encountered during works in order to ensure the protection of workers and occupants of the building. Asbestos fibers may be carried to the lungs. Prolonged and cumulative exposure is harmful and may cause asbestos-related diseases.

The procedure for handling asbestos materials must comply with the DENR Chemical Control Order on asbestos and the DOLE Order No. 154, series of 2016 on the management of asbestos in the workplace. In case asbestos materials is encountered at the work site, the following procedures should be followed:

- Notify the DENR of the proposed removal work and coordinate the activities with the DOLE with regards to the methods to be employed, inspections, decontamination, control monitoring and clearance inspections.
- The removal work must be assigned to a suitably qualified asbestos removal specialist.
- Isolate the site and provide barriers
- Restrict access from the general public to the site
- Erect appropriate signs and keep all access points locked at all times
- Following removal works, all surfaces are to be thoroughly cleaned using HEPA filtered vacuum and wet pipe techniques.
- On completion, the site must be carefully checked for visible asbestos containing materials.
- Any asbestos materials must be placed into asbestos plastic bags and then removed from the site by DENR-licensed waste transporter and treater.
- A hazardous waste manifest shall be completed for the transport, treatment and disposal of asbestos wastes offsite.

3. Air quality

Dust and Emissions. The retrofitting and construction activities may generate dust and fine materials from chipping and drilling of concrete which can cause degradation of ambient air quality and indoor air quality. Air quality issues may also arise from stockpile of excavated soil and aggregate and sand materials where during dry and windy conditions may be carried by wind. Dust is an environmental issue and a health and safety issue. The movement of hauling vehicles to the site during delivery of materials may also cause emissions.

Odor from Epoxy and Paint/Solvent Fumes. Odor from the application of epoxy resin, paint and solvent may also be generated. Workers may be exposed to fumes that can cause irritation of the nose, throat, and lungs. Workers applying epoxy resin and paint should be provided with respiratory mask. The area should be well-ventilated.

Welding Fumes and Gases. Air quality may also be affected during the welding of steel plates and cutting of steel. Workers are the ones directly exposed to this hazard. Overexposure to welding fumes and gases can cause health problems like respiratory illnesses.

To manage and mitigate these impacts and risks, the following measures will be implemented:

- For indoor concrete chipping and drilling, enclose the construction area with impermeable dust barriers and use industrial air vacuum pumps and ventilation exhaust fans to minimize spread and spillover of dust.
- For chipping/drilling activities on the exterior surface of the building, install nets/sheeting and temporary screens.
- Require workers to wear particle mask.
- Keep stockpile of aggregate and sand materials covered with well-fixed plastic sheeting, tarpaulins or other geotextiles to avoid suspension or dispersal of fine soil particles during dry and windy days.
- Equip concrete mixing equipment with dust shrouds.
- Periodically clean debris.
- Maintenance of hauling vehicles to ensure compliance with the motor vehicle emissions standards.

- Prohibit idling of construction vehicles while unloading materials at the site.
- Provide welders with PPE appropriate for welding activities and provide adequate ventilation and local exhaust to keep fumes and gases from the breathing zone and the general area.

4. Noise

Noise during construction may occur during operation of equipment and movement of delivery vehicles at the site. Noise caused by operation of machinery coupled by haulage vehicles can cause nuisance. It could disrupt ongoing classes or cause nuisance to patients. Workers are also directly exposed to noise. In order to avoid the risks and impacts of noise, the following measures are recommended:

- Coordinate with the administration of the school or health facility on the schedule of construction activities that will minimize disruption of facility operation
- Provide temporary anti-noise barriers to barricade the construction area and shield sensitive receptors
- Strictly prohibit concrete chipping and drilling activities beyond 9:00PM particularly in areas near sensitive receptors and residential areas
- Deliver fabricated steel plates and cut/bend reinforcing steel to desired size to minimize cutting activities onsite.
- Require workers to wear ear plugs
- Ensure that operation of the equipment complies with the noise standards for Class AA (schools and hospitals).

5. Drainage

Not all construction activities may necessarily require retroffiting of footings but all design activities start with the investigation of the symptoms of structural problems and failures in the foundation. This is performed through digging of sample or selected footings to determine indicators of structural concern and determine where repair is necessary.

During the excavation for the retrofitting of foundations, the excavated soil may cause soil erosion during rainfall events. Storm water runoff may carry soil into into canals and reduce the water-carrying capacity of the canal that could contribute to flooding during heavy rains. Excessive soil runoff may also lead to sedimentation of creeks and rivers. Another potential risk of soil runoff is from the residues from cement mixers and washing of equipment which could likewise clog canals.

Inorder to avoid impacts on drainage, the following measures must be implemented:

- Avoid earthworks during rainy months.
- Stockpile excavated soil (including aggregates and sand) away from drainage canals and water courses.
- Stockpiles of excavated soil and aggregates/sand should be provided with sediment control measures such as silt traps, barriers and trenches.
- Prohibit washing of cement mixers and other construction vehicles at the site
- Conduct daily cleaning and sweeping of the construction site and reriodically remove soils, stones and wastes from gutters, drainage canals and ditches.
- During rain events, check the drainage system to see if these are blocked. Remove materials and wastes that have been swept away by stormwater.

5. Water Pollution

Domestic sewage will be generated during construction due to presence of workers at the site. If there is no proper toilets at the site, improper disposal of sewage may cause unsanitary conditions in the premises. Therefore, appropriate wastewater management measures will be necessary such as provision of temporary toilet facilities or portable toilets ("portalets"). These facilities will be kept clean and sanitary at all times.

The portalets should be located more than 30 meters of an existing water supply well or surface water body and should be located in a place where its odor cannot reach busy areas of the compound. The portalets should have available water and hand washing facilities.

6. Site Security

The presence of workers in the school or health facility compound may pose risks to peace and order and security of the area. In order to avoid any untoward incidents, the contractor will be required to undertake the following:

- Security workers will be assigned to protect the construction sites, project workers and other stakeholders.
- Submit names of workers to the school/health facility and the Barangay.
- All workers will secure IDs or construction work pass from the school/health facility and from the Barangay.
- Restrict entry of unauthorized persons inside the construction site.

ECOP 3: Worker Health and Safety

Hazards of construction activities may cause adverse effects to health and safety of construction workers. Occupational hazards include ergonomic hazards from carrying/lifting heavy materials and equipment, exposure to excessive and continuous noise, exposure to hazardous materials, hotworks (i.e. welding), working in height and use of scaffoldings, and spread of communicable diseases such as COVID-19. There is slightly elevated risk of COVID-19 transmission when working in health facilities. The contractor will be required to undertake the following:

- Implement a Construction Safety and Management Plan in compliance with the DOLE OSH guidelines
- Designate an onsite Safety Officer duly accredited by DOLE
- Assign a contact person onsite to receive/respond to complaints from the barangay/community; provide the name/contact number of the responsible person to the Barangay.
- Require workers to wear safety gadgets/PPEs such as hard hats, gloves, safety belts, rubber boots, and goggles, appropriate to the task.
- Post safety signs/reminders in strategic areas within the construction area
- Provide sufficient lighting at night.
- Provide barricades / safety barriers particularly at excavations and stockpiles of aggregates.
- Provide first-aid station within the construction site to ensure immediate medical attention in case of accidents.
- Comply with the COVID-19 health and safety protocols in compliance with DPWH DO No. 38, series of 2020.

Working in Height. Workers safety may be at risk if scaffolding platform and height do not conform with the standards for safety. The scaffolds must be installed following the requirements of the National Building Code. For scaffolds with a platform height of under 2 m, the contractor is required to provide external strengthening. If the platform is 2 m in height or over, the ratio must of 3:1 wherein the width of the base of the scaffold must be at least ½ or 1/3 the height of the platform. When working in height, the workers will be required to wear harness as support and protection.

COVID-19. The workers are required to follow the basic hygiene procedures at all times to prevent the transmission of COVID-19. The detailed measures are outlined in Annex H. In general, the contractor should present follow the guidelines of the Inter-Agency Task Force on COVID-19 and the DOH. Workers to be deployed at the worksite should be undergo COVID-19 tests. Number of personnel at the site will be limited. Disinfection and temperature monitoring will be undertaken on a daily basis.

DPWH Engineers assigned at the site shall ensure strict compliance to DOLE D.O. 13, series of 1998, and implementation of wearing of PPE such as face masks, safety glasses/goggles, face shields, and long sleeve T-shirts, to contain the spread of COVID-19 in the workplace.

ECOP 4: Community Health and Safety

The potential risks to health and safety of community associated with the project activities include nuisance from noise, airborne dust, falling debris, and congestion of roads adjacent to the sites during delivery of materials. Some of the schools and health facilities are in community areas which can be accessed through narrow roads. The movement of large delivery truck to these areas may block roads. In order to manage community and health issues, the following mitigation measures will be implemented:

- Conduct consultations with neighboring communities and Barangay about the project and the schedule of works.
- When working on the exterior of the building, provide safety nets/screens for protection of adjacent properties and passersby.
- Install canopy if the building is next to a road or building that may be affected by falling debris.

ECOP 5: Cultural Heritage

Contracts for civil works involving excavations will incorporate procedures for dealing with situations in which buried Physical Cultural Resources (PCR) are unexpectedly encountered. The final form of these procedures will depend upon the local regulatory environment, including any chance find procedures already incorporated in legislation dealing with antiquities or archeology. Resource persons from the Cultural Properties Division of the National Museum are the designated officials in-charge of these matters.

PCR is defined as Movable or immovable objects, sites, structures or groups of structures having archeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. The following are also specifically defined under the new Act

(a) **"Built Heritage"** shall refers to architectural and engineering structures, such as but not limited to bridges, government buildings, houses of ancestry, traditional dwellings, quartels, train stations, lighthouses, small ports, educational technological and industrial complexes, and their settings, and landscapes with notable historical and cultural significance;

(b) **"Cultural Heritage"** shall refer to the totality of cultural property preserved and developed through time and passed on to posterity;

(c) **"Cultural Property"** shall refer to all products of human creativity by which a people and a nation reveal their identity, including churches, mosques and other places of religious worship, schools and natural history specimens and sites, whether public or privately-owned, movable or immovable, and tangible or intangible;

(d) **"Important Cultural Property (ICP)"** shall refer to a cultural property having exceptional cultural, artistic, and historical significance to the Philippines, as shall be determined by the National Museum and/or National Historical Institute.

(e) **"Tangible cultural property"** shall refer to a cultural property with historical, archival, anthropological, archaeological, artistic and architectural value, and with exceptional or traditional production, whether of Philippine origin or not, including antiques and natural history specimens with significant value.

(f) **Indigenous properties** - The appropriate cultural agency in consultation with the National Commission on Indigenous Peoples shall establish a program and promulgate regulations to assist indigenous people in preserving their particular cultural and historical properties.

The chance find procedure is used in case of accidental discovery of an artifact or fossil of possible cultural or historical significance. The procedure in this ESMF describes a physical cultural resources management plan that includes measures to avoid or mitigate any adverse impacts on physical cultural resources; measures needed for managing any chance find; and the reporting system to authorities.

In compliance with the requirements of the National Cultural Heritage Act of 2009 (Republic Act 10066), National Museum Act of 1998 (Republic Act 8492) and Cultural Properties Preservation and Protection Act (Presidential Decree 374), cultural treasures and properties that will be accidentally found at the site will be surrendered to the National Museum through the Cultural Properties Regulation Division.

The chance find procedure will be implemented and disseminated to contractors and its workers. Contractors will be made aware of cultural properties to look out for that may have heritage, cultural, social and spiritual significance such as pottery, ceramics, wrought iron, gold, bronze, silver, wood or other heraldic items, metals, coins, medals, badges, insignias, coat of arms, crests, flags, arms and armor, furniture, carvings, paintings, sculptures, jewelry, and other objects classified as antiques. The chance find procedure will include the following:

(a) Immediately stop work if a suspected find is discovered at the site and contact the National Museum to report the chance find. Simultaneously, coordinate the matter with the local government unit's Department of Tourism, Culture and Arts of Manila (DTCAM).
(b) Record details in the incident report and take photos of the find.
(c) Secure the area to prevent any damage or loss of removable objects. In cases of removable antiques or sensitive and delicate artifacts and relics, a night guard will be assigned to secure the area until the representative from the National Museum takes over to assess the artifact and the site.
(d) The decision to remove the artifact or relic will be taken by the authorities from the National Museum.
(e) Construction activities will resume only after permission is granted from the National Museum.

The suspension of excavation activities shall be lifted only upon the written authority of the National Museum or the National Historical Institute and only after the systematic recovery of the archaeological materials.

ANNEX C

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN TEMPLATE

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The ESMP is prepared following the result of the environmental and social screening process in Annex A. Subproject activity with potential to cause medium to high risks and impacts will prepare the site-specific ESMP together with the ECOP. The ESMP sets out specific plans, including budgets, organization arrangements and responsibilities for social and environmental impact management during project implementation. The ESMP should be specific in its description of the individual mitigation and monitoring measures and the assignment responsibilities. The ESMP will contain, as appropriate, sub-plans on waste management, occupational safety and health, construction site management, materials management, and monitoring and reporting plan. Outlined below is a template of the ESMP matrix.

1. Introduction

State what the project is all about and the scope and rationale of the ESMP

2. Project Description

This section will describe the project, activities, location, layout map, and a brief baseline of the surrounding environment and relevant socio-economic context.

3. Potential Environmental and Social Impacts

Identify the significant risks and impacts based on the evaluation of the retrofitting technology, construction methods, results of the site evaluation and consultations with building end-user and other stakeholders.

3. Environmental and Social Management Plan

Describe the proposed mitigation measures in matrix format and the proposed monitoring plan.

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement

As sample ESMP matrix is attached.

4. ESMP Implementation

Describe the following:

- Institutional Plan
- Monitoring and Reporting
- Schedule and Implementation Budget
- Stakeholder Engagement Plan
- Disclosure and Consultation
- Grievance Redress Mechanism

5. Capacity Development and Training

Discuss the capacity development activities and training to be undertaken.

6. Timeline and Cost

Present the ESMP timeline of implementation and the estimated cost/budget.

Appendix A: Inspection Checklist

SAMPLE TEMPLATE OF ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
A. Pre-Construction Phase				
Disruption of operation of facility due to temporary relocation of affected school classrooms/health facility or relocation of other building utilities	• PIU, IO and design team conduct joint site inspection and consults with the building administrators and other stakeholders to plan the temporary relocation site of affected classrooms/health facility or other structures (Refer to ESMF guidance on selecting areas for temporary classrooms, temporary health facility, temporary canteen) • Coordinate the schedule of activities/program of works with the administration of the school or health facility. • Establishment of the grievance redress mechanism (identify contact persons in case of complaints) • Post billboard containing project information and contact information of complaint focal person	• Minutes of meetings • Site layout • Temporary relocation plan • Program of works/schedule • Updated site-specific ESMP/ECOP and other applicable safeguard instruments • CHSP • Project billboard	At least 1% of the total project cost	• PIU • IO • Contractor • Building owner/end-user (school or health facility) • Stakeholders (canteen owner, adjacent residential houses, barangay, etc.) • Third-party construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
Failure to comply with national laws and regulations	• Secure necessary permits prior to construction (i.e. Barangay Clearance, Building Permit or Renovation Permit, Excavation Permit, Bureau of Fire Protection Clearance, and CNC)	• Copies of approved permits	At least 0.5% of the total project cost	• Contractor
B. Construction Phase				
Noise and vibration from hammering and drilling activities during concrete chipping and stripping down of targeted walls/ceilings/ beams/columns	• Provide temporary barriers to barricade the construction area and shield sensitive receptors • Strictly prohibit heavy noise generating activities beyond 9:00PM, particularly in areas near residential areas and sensitive receptors. • Require workers to wear ear plugs • Monitor complaints from the building end-user and communities.	• Check secure barriers • Check work schedule • Check if workers' have ear plugs • Check complaints received	At least 2% of the total project cost	• Contractor • IO • PIU • Construction quality assurance firm • Building end-user and adjacent communities
Noise from cutting of steel	• Deliver fabricated steel plates and cut/bend reinforcing steel to desired size to minimize cutting activities onsite • Require workers to wear ear plugs.	• Check if workers' have ear plugs • Check materials delivery	At least 0.5% of the total project cost	• Contractor • IO • PIU • Construction quality assurance firm
Dust from excavation,	• Provide nets/sheeting and temporary screens for	• Check dust control measures	At least 1% of the total project cost	• Contractor • IO

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
concrete chipping and drilling	chipping/drilling on the exterior surface of the building. • Conduct water spraying to suppress dust and minimize discomfort to nearby residents and occupants in the compound. • Provide impermeable dust barriers and use air vacuum pumps and ventilation exhaust fans for indoor concrete chipping and drilling. • Require workers to wear dust mask. • Periodically clean-up debris.			• PIU • Construction quality assurance firm
Emissions from delivery of materials on site	• Prohibit idling of hauling vehicles while unloading materials at the site	• Monitor hauling vehicles	Part of construction management cost	• Contractor • IO • PIU • Construction quality assurance firm
Exposure to asbestos material during removal of roof or walls containing asbestos	• If asbestos is identified at the site, suspend work until DENR is notified. • Contract DENR-licensed third-party asbestos material disposal facility who will remove and handle the	• Check compliance with the asbestos control measures	To be determined (cost is based on extent of asbestos material found onsite)	• Contractor • IO • PIU • Construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
	asbestos in compliance with the Chemical Control Order on Asbestos. • Complete the Hazardous Waste Manifest for the removal, transport and disposal of asbestos wastes.			
Generation of non-hazardous solid waste/construction debris	• Provide segregation receptacles/bins for different types of solid waste and debris. • Collect recyclable materials such as wires, pipes, rebars, and other pieces of material in separate bins for possible reuse or selling to a recycler. • Avoid extended accumulation of wastes at the site and arrange for collection and offsite disposal of residual wastes in an LGU-approved disposal site. • Prohibit burning of wastes. • Conduct daily cleaning of the work areas after a day's work by clearing of waste materials and obstructions such as exposed nails, broken glass, etc.	Monitor non-hazardous solid waste management measures	At least 2% of total project cost	• Contractor • IO • PIU • Construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
Generation of hazardous waste such as empty containers of paints, solvents, epoxy resins, adhesives, degreasers, oil rags, and busted lamps	• Designate a hazardous waste collection area at the work site. • Provide segregate bins/receptacles for the different types of hazardous wastes and affix labels on the bins. • Register as hazardous waste generator with the DENR • Commission the services of a DENR-registered hazardous waste transporter and treater • Complete the Hazardous Waste Manifest • Secure the Certificate of Treatment (COT) from the DENR-recognized treater.	Monitor implementation of hazardous waste management measures		• Contractor • IO • PIU • Construction quality assurance firm
Soil runoff that may cause clogging of canals and localized flooding	• Avoid earthworks during rainy months. • Provide silt/sediment traps around mounds of excavated soil and aggregate materials. • Avoid stockpiles by only ordering the supplies needed.	Monitor implementation of drainage management measures	At least 1% of the total project cost	• Contractor • IO • PIU • Construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
	• Stockpiles of aggregates and sand should be placed inside the rooms under construction. • In exceptional cases, materials stockpile will be allowed in an open area of the building compound within a couple of days, subject to approval of the building administrator. In such case, materials stockpile should be secured, provided with silt traps and with visible signs. The stockpile site should be at least 10 meters away from any canal or surface water. • Cover cement bags with tarpaulin. • Prohibit washing of cement mixers and other construction vehicles at the site. • Conduct daily cleaning and sweeping of the construction site and periodically remove soils, stones, and wastes from gutters, drainage canals and ditches.			
Water pollution from domestic sewage	• Provide temporary toilet facilities or portable toilets for workers with	Monitor domestic sewage management	At least 2% of the total project cost	• Contractor • IO • PIU

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
	available water and handwashing facilities. • Keep the portalets clean and sanitary at all times. • Locate the portalets at least 30 meters from an existing water supply well, canal, or surface water body. It should not be located in a place where its odor can reach busy areas of the compound. • Ensure collection at least weekly or once contents are almost 2/3 full.	and sanitation at the site		• Construction quality assurance firm
Spill aggregate materials during delivery to the site	• Cover materials with tarpaulin when in transit	• Monitor if measure is implemented by hauling vehicle • Check complaints	Part of cost of hauling vehicle; monitoring cost is part of construction management cost	• Contractor • IO • PIU • Construction quality assurance firm
Traffic Management Road congestion in areas with narrow access roads leading to the site	• Schedule the delivery of materials during non-peak hours • Prohibit parking of construction vehicles on the road near the site	• Monitor if measure is implemented by hauling vehicle • Check complaints	Part of cost of hauling vehicle; monitoring cost is part of construction management cost	• Contractor • IO • PIU • Construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
Risks and hazards to worker health and safety • Ergonomic hazards from carrying/lifting heavy materials and equipment • Unsafe scaffoldings and falseworks may compromise safety of workers • Hire only licensed NC2 welders • Welding fumes may lead to illness (respiratory diseases) • Welders may also be exposed to hazards such as heat, flame/fire, burns, and radiation • Workers may be exposed to	• Implement a Construction Safety and Health Program in compliance with the DOLE OSH guidelines • Designate an onsite Safety Officer duly accredited by DOLE • Assign a contact person onsite to receive/respond to complaints from the barangay/community; provide the name/contact number of the responsible person to the barangay. • Require workers to wear safety gadgets/PPEs such as hard hats, gloves, safety belts, rubber boots, and googles, appropriate to the task. • Provide welders with the appropriate PPEs; ensure ventilation in the work area involving welding and painting activities. • Post safety signs/reminders • Provide sufficient lighting at night.	Monitor implementation of the Construction Safety and Health Program	At least 5% of the total project cost	• Contractor • IO • PIU • Construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
paint fumes that can cause irritation of the nose, throat, and lungs • Spread of communicable diseases, i.e. COVID-19 virus	• Provide barricades and safety barriers particularly at excavations and stockpiles of aggregates • Provide a first-aid kit at the site to ensure immediate emergency medical attention in case of accidents • Comply with the COVID-19 health and safety protocols in compliance with DPWH DO No. 38, series of 2020 and other instructions from the IATF.			
Risks to peace and order and security due to presence of workers	• Security workers will be assigned at the site • Names of workers entering the compound will be submitted to the school/health facility and to the Barangay • All workers will secure IDs or construction work pass from the school/health facility and from the Barangay to restrict entry of any unauthorized persons inside the compound.	Monitor implementation of security measures	At least 0.5% of total project cost	• Contractor • IO • PIU • Construction quality assurance firm

Potential Risks and Impacts	Mitigation Measures	Monitoring Parameters	Cost of Mitigation/Monitoring	Institutional Arrangement
Risks to community safety due to falling debris when working on the exterior of the building with adjacent properties and road/walkway	• Provide safety nets/screens for protection of adjacent properties and passersby • Install canopy if the building is next to a road or building that may be affected by falling debris.	Monitor provision of falling debris protection measures	At least 2% of the total project cost	• Contractor • IO • PIU • Construction quality assurance firm
Chance discovery of artifact or fossil of possible cultural or historical significance during excavation activities	• Implement the chance find procedure by immediately halting the excavation works. • Report to the National Commission on Culture and Arts and resume work once clearance has been issued by the authorities.	Monitor implementation of chance find procedures	To be determined	• Contractor • IO • PIU • Construction quality assurance firm

ANNEX D

CONSTRUCTION SAFETY AND HEALTH PROGRAM CHECKLIST

Annex D: Construction Safety and Health Program (CSHP) Checklist

	Yes	No	Remarks
A. General Requirements			
a. Two (2) copies of letter of intent			
b. Name of authorized contact person with telephone number/s			
c. Two (2) copies of the Safety and Health Program. One copy must be original print.			
B. CSHProgram must contain the following:			
1. Name of person who prepared the program (please indicate if accredited by DOLE as OSH Practitioner)			
2. Project Description:			
a. Specific name of project			
b. Location of the project			
c. Project classification			
d. Project owner			
e. Name of main contractor			
f. Estimated number of workers to be deployed			
g. Estimated start of execution of project			
h. Estimated duration			
i. Scope of work to be undertaken			
3. Company Safety Policy written on a company letterhead Must be duly signed by the highest company official or the highest-ranking company representative who has overall control of project execution.			
4. Name/s of Site Safety and Health Personnel Must specify the proposed structure and membership of the safety and health committee (Specify the name/s)			
5. Specific duties and responsibilities of the Safety Officer			
Specific provisions on the following (if applicable):			
6. On-site safety and health promotion and continuing information dissemination			
7. Accident and incident investigation and reporting			
8. Protection of the general public within the vicinity of the construction site			
9. Environmental control			
10. Guarding of hazardous machinery			
11. Personal Protective Equipment			
12. Handling of hazardous substances			
13. General materials handling and storage procedures			
14. Workers skills and certification (for critical occupation)			
15. Provisions for transportation facilities for workers in case of emergency			
16. Temporary fire protection facilities and equipment			
17. First aid and health care medicines, equipment and facilities			
18. Workers welfare facilities			
19. Proposed hours of work and rest breaks			
20. Construction waste disposal			

	Yes	No	Remarks
21. Testing and inspection of construction heavy equipment			
22. Disaster emergency preparedness contingency plan			
23. COVID-19 prevention health and safety protocols			
24. Standard operating procedure and job hazard analysis for the following activities and other hazardous work not outlined herein.			
a. Site clearing			
b. Excavations			
c. Erection and dismantling of scaffolds and other temporary working platforms			
d. Temporary electrical connections/installations			
e. Use of scaffolds and other temporary working platforms			
f. Working at unprotected elevated working platforms or surfaces			
g. Use of power tools and equipment			
h. Gas and electric welding and cutting operations			
i. Working in confined spaces			
j. Use of internal combustion engines			
k. Handling hazardous and/or toxic chemical substances			
l. Use of hand tools			
m. Use of mechanized lifting appliances for movement of materials			
n. Use of construction heavy equipment			
o. Demolition			
p. Installation, use and dismantling of hoist and elevators			
25. Penalties/Sanctions for violation of the provision/s of the CSH Program			
26. Grievance redress mechanism to address workers complaints			
C. Attachments			
1. Photocopy of Registration Forms received and approved by the concerned DOLE Regional Office			
2. Photocopy of Invitation to Bid/Project Contract			
3. Photocopy of Certificate of Completion of required training of all designated OSH personnel			
- Safety Officer – Basic Occupational Safety and Health Training for Construction Site Safety Officer			
- OH Nurse – Basic Occupational Safety and Health Training for OH Nurse (if any)			
- First Aider - Standard First Aid Training and valid PNRC ID as first aider			
- OH Physician – Basic Course on Occupational Medicine (if any)			
4. Certificate of Inspection and Testing of Construction Heavy Equipment			
5. Skills Certificate of Construction Heavy Equipment operators issued by TESDA (if any)			

ANNEX E
LABOR MANAGEMENT PROCEDURE

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Bonifacio Drive, Port Area, Manila

Philippines Seismic Risk Reduction and Resilience Project (PSRRRP)

ANNEX E

LABOR MANAGEMENT PLAN (LMP)

October 2020

LIST ACRONYMS AND ABBREVIATIONS

CERC	-	Contingent Emergency Response Component
COS	-	Grievance Redress Mechanism
DEO	-	District Engineering Office
DEPED	-	Department of Education
DO	-	Department Order
DOH	-	Department of Health
DPWH	-	Department of Public Works and Highways
DOLE	-	Department of Labor and Employment
ER-PMO	-	Earthquake Resiliency - Project Management Office
ESMF	-	Environmental and Social Management Framework
ESS	-	Environmental and Social Standards
GRC	-	Grievance Redress Committee
GRM	-	Grievance Redress Mechanism
JO	-	Job Order
LMP	-	Labor Management Plan
MOA	-	Memorandum of Agreement
NCR	-	National Capital Region
OSH	-	Occupational Safety and Health
PAC	-	Project-affected Community
PAP	-	Project-affected Person
PIU	-	Project Implementation Unit
PPE	-	Personal Protective Equipment
RA	-	Republic Act
RO	-	Regional Office
PSRRRP	-	Philippines Seismic Risk Reduction and Resiliency Project
WB	-	World Bank

I. INTRODUCTION

A. Labor Management Procedures

These labor management procedures provide an overview of the applicable Philippine laws and policies, and WB Environmental and Social Standards ESS2 provisions addressing the labor risks and issues that may arise during implementation of the Philippines Seismic Risk Reduction and Resiliency Project.

The LMP is a living document, which is initiated early in project preparation, and is reviewed and updated throughout the project development and implementation.

B. Project Description

The Philippines Seismic Risk Reduction and Resilience Project (PSRRRP) has four components: (1) Improving Multi-Hazard Resilience of Public Buildings and Facilities, (2) Improving Emergency Preparedness and Response in Public Works, (3) Project Management, and (4) Contingency Emergency Response.

Component 1: Improving Multi-hazard Resilience of Public Buildings and Facilities
The main objective of this component is to improve the seismic performance and multi-hazard resilience of public buildings with the aim to save lives, ensure their continued functioning (for critical facilities), and reduce economic losses in the event of an earthquake (and other adverse natural events such as typhoons).

Component 2: Improving Emergency Preparedness and Response for Public Works
This component aims to strengthen DPWH's capabilities and capacities to effectively execute the responsibilities – under Executive Order No. 52 and Oplan Metro Yakal Plus – for transport and mobility restoration (vital access roads, bridges and lifelines, debris clearing), to assist in providing the Search and Rescue Sector with equipment for search and rescue operations, and to improve infrastructure systems through infrastructure assessment and rehabilitation.

Component 3: Project Management
This component focuses on strengthening DPWH's organizational and technical capacity to manage and implement long term seismic risk reduction programs for public buildings/facilities and infrastructure.

Component 4: Contingent Emergency Response
This contingent emergency response component (CERC) would allow for rapid reallocation of uncommitted project funds to support immediate response and recovery needs in the event of a natural disaster or crisis. Project beneficiaries in service areas covers strengthened/reconstructed buildings and facilities, and the Metro Manila population served by strengthened emergency response capability and capacity. The project is expected to contribute to the end goal of reducing lives loss and damage to assets due to earthquakes and other natural disasters.

II. OVERVIEW OF LABOR USE ON THE PROJECT

A. Number and Characteristics of Project Workers

Direct Workers

This refers to the people employed directly by DPWH to work specifically in relation to the project. The project will assign a Project Implementation Unit (PIU) under the DPWH Earthquake Resiliency - Project Management Office (DPWH ER-PMO) who will supervise and oversee the project implementation. It will consist of permanent employees from the different Bureaus, Services, Project Management Office of the Department as well as the Regional Office (RO) and District Engineering Offices (DEO) of NCR.

Contracted Workers

This refers to people employed through third parties to perform work related to core functions of the project, regardless of location. Third parties may include contractors, subcontractors, or intermediaries. For this project, contracted workers are identified as follows:
Retrofitting consultants will be engaged in the early stage of the project to conduct detailed engineering works on public school buildings and health facilities, and to design the retrofitting plans. Construction workers are anticipated to do the retrofitting works for component 1 of the project hired by the winning contractors. Contractors will be chosen based on the process stipulated in the procurement plan of this project.

Vulnerable Workers

It is not yet identified if there are any vulnerable workers who will be engaged in the project but if so, protection to such workers will be based on the Labor Code of the Philippines, and other laws and guidelines set in the ESS2 of the ESMF.

No person under the age of 18 will be employed in compliance with the Labor Code of the Philippines and the Special Protection of Children Against Child Abuse, Exploitation and Discrimination Act. Also, discrimination against disabled and women workers will be avoided as mandated under the Magna Carta for Disabled Persons (RA 7277, as amended by RA 9442) and Magna Carta of Women (RA 9710) respectively.

Security workers

The winning contractor/s for the retrofitting of public schools and health facilities is/are anticipated to use a small number of security workers to protect the project construction sites, project workers and other stakeholders. In each site, security personnel of the contractor may range from 1 to 3 depending on the number of work shifts and arrangements with the school/health facilities administration on the use of their own security personnel.

III. ASSESSMENT OF KEY POTENTIAL LABOR RISKS

A. Project Activities

Direct Workers

The staff of PIU shall be responsible for external liaison, document transfer and exchange with the World Bank and the internal management; coordination and conference organization for the Project; organize the preparation of, supervision of and execution of implementation plan for the Project; coordination with the relevant offices for the consultancy, procurement, and evaluation activities of the Project; and coordination with the involved agencies such as Department of Education (DepEd)

and Department of Health (DOH) to speed up the various governmental review and approval procedures at all stages of project implementation.

The PIU shall also execute the procurement activities which includes drafting of the bidding documents, review and evaluation of the project proposals, updating of procurement plan and other procurement related works. Monitoring of the retrofitting projects shall also be the responsibility of the unit.

Contracted Workers

Prior to the retrofitting projects, consultancy services will be engaged to conduct detailed engineering evaluation, appropriate retrofitting measures identification and detailed engineering design preparation. Submitted reports and plans from the consultant will be used for the retrofitting project of the buildings.

The retrofitting works shall be carried out by the construction worker of the winning contractors. Given the scale of retrofitting activities, it is expected that the project will engage a handful of contractors. Construction activities that will be done shall be based on the approved detailed engineering design done by the consultant. In similar projects, common retrofitting schemes used includes concrete jacketing, steel jacketing, steel bracing or installation of carbon fiber and other methods deemed necessary.

Key Labor Risks

During project implementation, the following key labor risks are anticipated:

Occupational Safety and Health (OSH)

Serious accidents and or injuries due to lack of OSH measures
Exposure to hazardous materials
Inappropriate/inadequate Personal Protective Equipment (PPE)
Poor handling of construction wastes
No certified OSH specialist permanently on site

Child Labor or Forced Labor

The employment of children below the age of eighteen (18) is unlikely in the implementation of the project. However, particular attention will be given to the qualifications and age of the project worker considering that the job to be undertaken in the conduct of the project requires heavy physical labor for the retrofitting works and higher degree of knowledge and skills for the consultancy services. Forced labor risk is also unlikely considering that there is no shortage of labor supply within the NCR.

Labor disputes over terms and conditions of employment

For direct workers, disputes may arise due to lack of adherence to official work hours and compensation for overtime, potential discrimination in recruitment and employment and potential for lack of equal pay for equal work for men and women in violation of national law.

For contracted workers, disputes may arise due to the delay of processing of wages, disagreement with the working conditions, and health and safety concerns in the work environment. Likewise, unequal distribution of tasks and unresolved grievances of workers may lead to labor unrest.

Labor Influx and gender-based violence.

Labor influx is not expected considering the sufficient supply of labor in Metro Manila. However, the presence of workers within the subproject premises particularly poses gender-based violence risks.

This is particularly important in schools where underage girls may be subject to sexual harassment or serious offenses.

IV. OVERVIEW OF LABOR LEGISLATION

A. Constitutional Mandates on Labor Legislation

The 1987 Constitution of the Republic of the Philippines provide the following relevant provisions as legislative framework for labor concerns, as follows:

Sec. 3, Art. XIII- The State shall afford full protection to labor, local and overseas, organized and unorganized, and promote full employment and equality of employment opportunities for all.

It shall guarantee the right of all workers to self-organization, collective bargaining and negotiations, and peaceful concerted activities, including the right to strike in accordance with the law. They shall be entitled to security of tenure, humane conditions of work, and a living wage. They shall also participate in policy and decision-making processes affecting their rights and benefits as may be provided by law.

The State shall promote the principle of shared responsibility between workers and employers and the preferential use of voluntary modes in settling disputes, including conciliation, and shall enforce their mutual compliance therewith to foster industrial peace.

The State shall regulate the relations between workers and employers, recognizing the right of labor to its just share in the fruits of production and the right of enterprises to reasonable returns to investments, and to expansion and growth.

Sec. 11, Art. II- The State values the dignity of every human person and guarantees full respect for human rights.

Sec 13, Art. II- The State recognizes the vital role of the youth in nation-building and shall promote and protect their physical, moral, spiritual, intellectual, and social well-being. It shall inculcate in the youth patriotism and nationalism and encourage their involvement in public and civic affairs.

Sec. 14, Art. II- The State recognizes the role of women in nation-building and shall ensure the fundamental equality before the law of women and men.

Sec. 1, Art III- No person shall be deprived of life, liberty, or property without due process of law, nor shall any person be denied equal protection of the laws.

Sec. 4, Art. III- No law shall be passed abridging the freedom of speech, of expression, or of the press, or the right of the people to peaceably assemble and petition the government for redress of grievances.

Sec. 14, Art. XIII- The State shall protect working women by providing safe and healthful working conditions, taking into account their maternal functions, and such facilities and opportunities that will enhance their welfare and enable them to realize their full potential in the service of the nation.

B. Labor Code of the Philippines

Presidential Decree No. 44, as amended by RA 6715, known as the "Labor Code of the Philippines", governs all employment practices and relations. Provisions of the code shall be strictly implemented. Some of the provisions are as follows:

Wage and Welfare
Employees shall receive their wages by means of legal tender, at least once every two weeks or twice a month at intervals not exceeding sixteen (16) days.
In a contracted work, employees of the contractor and of the latter's subcontractor, shall also be paid in accordance with the labor code.
The wage paid by the employers to the workers shall not be lower than the prescribed minimum wage set by the Regional Tripartite Wages and Productivity Boards.

Working time, Rest Days and Holidays
The normal work hours for every employee shall not exceed eight (8) hours a day. If all or any part of the employee's working hours falls on 10:00 PM to 6:00 AM, he/she shall be entitled to a night shift pay in addition to the regular wage. If the worked performed exceeds the normal working hours, he/she shall be given overtime pay.
It is the right of every employee for a rest period not less than twenty-four (24) consecutive hours after every six (6) consecutive normal workdays.
Compensation shall be given for work performed during holidays and Sundays.

Equal Rights
Workers shall have the right to self-organization and to form, join, or assist labor organizations of their own choosing for purposes of collective bargaining.
Minimum employable age is 18 years old. Persons of age 15 to 18 can be employed given that they work in non-hazardous environment.
Gender discrimination in employment and labor relations shall be prohibited. Male and female employees are entitled to equal compensation for work of equal value and access to promotion and training opportunities.

C. Guidelines on Job Order (JO) and Contract of Service (COS) Workers

Although Article IX-B of the 1987 Constitution provides that Civil Service shall embrace all agencies of the government, the Revised Omnibus Rules on Appointments and other Personnel Actions and Civil Service Commission (CSC) Memorandum Circular No. 15, Series of 1999 provides that contracts of services need not be submitted to the Commission since the services rendered thereunder are not considered as government service. The CSC clarifies the guidelines through Joint Circular No. 1, Series of 2017, jointly issued by the CSC, Commission on Audit (COA), and the Department of Budget and Management (DBM) in order to protect JO and COS workers while recognizing the need for government agencies to hire personnel on temporary basis. Starting 01 January 2019, hiring of JO and COS workers should comply with the joint circular. Heads of agencies and/or responsible officers may be held administratively liable under existing civil service rules should they be found violating the said circular. Further, the COA is tasked to check possible irregularities in the procurement of JO and COS services.

Terms and Conditions
Below are the relevant provisions of Joint Circular No. 1, Series of 2017 with regard to the terms and conditions of work:

- Individual Contract of Service (Par. 6.2)

The term of contract between the agency and the individual contractor shall be for a maximum period of one (1) year, renewable at the option of the Head of the procuring entity, but in no case shall exceed the term of the latter;

- Engaging the services of individual contractor shall be subject to pertinent provisions of Republic Act No. 9184 and its implementing guidelines, as applicable, and the existing budgeting, accounting and auditing rules and regulations.

- Job Order (Par. 6.3)
  The services of a JO worker is either paid according to an agreed contract amount for the piece of work or on a daily wage basis.
- Contracting the service of JO workers shall be subject to pertinent budgeting, accounting and auditing rules and regulations.

- Limitations (Par. 7.0)
  Hiring under COS shall be limited to consultants, learning service providers, and/or other technical experts to undertake special project or job within a specific period. The project or job is not part of the regular functions of the agency, or the expertise is not available in the agency, or it is impractical or more expensive for the government agency to directly undertake the service provided by the individual contractor;

- Hiring of JO workers shall be limited to emergency or intermittent work, such as clearing debris on the roads, canals, waterways, etc. after natural/man-made disasters/occurrences; other trades and crafts, and manual tasks which are not part of the regular functions of the agency;

- COS and JO workers should not, in any case, be made to perform functions which are part of the job description of the agency's existing regular employees;

  The services of the COS and JO workers are not covered by the Civil Service law and rules thus, not creditable as government service. They do not enjoy the benefits enjoyed by government employees, such as leave, PERA, RATA and thirteenth month pay.

- Payment of Services Under Individual COS (Par. 8.0)
  Individuals hired through COS shall be paid by the prevailing market rates, subject to the provisions of Republic Act No. 9184 and its Implementing Rules and Regulations;
  Individuals hired through the COS have the option to enroll themselves in social benefit program thru the Social Security System (SSS), PhilHealth and Pag-IBIG Fund as self-employed members.

- Payment of Services Under Job Order (Par. 9.0)
  Individuals hired through JO shall be paid wages equivalent to the daily wages/salary of comparable positions in government and a premium of up to 20% of such wage/salary.

V. OVERVIEW OF OCCUPATIONAL SAFETY AND HEALTH

A. Republic Act No. 11058 – OSH Law

According to Chapter III of the OSH Law, the following are the duties of every employer, contractor or subcontractor, and any person who manages, controls or supervises the work:

- Equip a place of employment for workers free from hazardous conditions that are causing or are likely to cause death, illness or physical harm to the workers
- Provide complete job safety instructions and proper orientation to all workers including, but not limited to, those entering the job for the first time and to those relating to familiarization with their work environment
- Inform the workers of the hazards associated with their work, health risks involved or to which they are exposed to, preventive measures to eliminate or minimize the risks, and steps to be taken in case of emergency
- Use only approved specific industry set of standards of devices and equipment for the workplace as applicable
- Comply with OSH standards including training, medical examination, and when necessary, provisions on protective and safety devices such as PPE and machine guards. Training for workers shall include health promotion, hazards associated with their work, health risks involved or to which they are exposed to, preventive measures to eliminate or minimize risks, steps to be taken in case of emergency, and safety instructions for the jobs, activities and tasks to be handled by workers
- Make arrangements for workers and their representatives to have the time and resource to participate actively in the processes of organizing, planning and implementation, monitoring, evaluation and action for improvement of the OSH management system
- Provide, when necessary, for measures identifying trainings and drills, evacuation plans, etc., o deal with emergencies, fires and accidents including first-aid arrangements

To comply with the OSH standards, every employee/worker shall:

- Participate in the capacity building activities on safety and health and other OSH related topics and programs
- Proper use of all safeguards and safety devices furnished for workers' protection and that of others
- Comply with instructions to prevent accidents or imminent danger situations in the workplace
- Observe prescribed steps to be taken in cases of emergency including participation in the conduct of national or local disaster drills
- Report to their immediate supervisor or any other responsible safety and health personnel any work hazard that may be discovered in the workplace

Employed citizens, employees shall have the following common rights:

- To refuse to work without threat or reprisal from the employer if an imminent danger situation exists.
- To report accidents, dangerous occurrences, and hazards to the employer, to DOLE, and to other concerned competent government agencies.
- To receive personal protective equipment, to be provided by their employer, contractor or subcontractor, free of charge, for any part of the body that may be exposed to hazards, and other lifeline
- To receive information on workplace conditions, risks that can impose danger to health, industrial dangerous and poisonous factors

B. Occupational Safety and Health Standards

The Occupational Safety and Health Standards, in compliance with Article 162 of the Labor Code of the Philippines, was formulated to protect every working man against the dangers of injury, sickness or death through safe and healthful working conditions. For this project, chapters discussing standards

for personal protective equipment and devices, construction safety, and hazardous materials are necessary and should be complied.

C. Department Issuance on Occupational Safety and Health

DPWH Department Order 56 series of 2005: Guidelines for the Implementation of Department of Labor and Employment (DOLE) No.13 series of 1998, Guidelines in the Governing Occupational Safety and Health in the Construction Industry, it is expected that the contractors should follow the said guidelines to eliminate or reduce occupational safety and health hazards in all work places, and institute new, and update existing programs to ensure safe and healthful working conditions in all places of employment.

VI. RESPONSIBLE STAFF

The PSRRRP PIU and DPWH Project Engineers shall perform the following duties and responsibilities summarized in Table 1 to effectively participate in and manage the project and guarantee effective operation.

Table 1. Duties and Responsibilities for Project Workers

Duty/Responsibility	**Direct workers**	**Contracted workers**
Management of contractors and subcontractors	DPWH	PSRRRP PIU and Project Engineers from DPWH
Management of workers	DPWH	Contractors (Project Manager)
Occupational health and safety	DPWH	Contractors (including coordination with subcontractors) and Project Engineers from DPWH
Training	DPWH, WB	PSRRRP PIU, Contractors
Appeals	DPWH	PSRRRP PIU
Monitoring	DPWH	PSRRRP PIU

VII. POLICIES AND PROCEDURES

PSRRRP will apply the following policies and procedures to address the key labor risks identified under Section 3.2.

Occupational Safety and Health (OSH)

The relevant international laws, national laws and administrative issuances which serve guidelines for government agencies to ensure good working conditions of the workers shall be followed. The PSRRRP PIU and Contractor's Project Engineers shall ensure that the workers are well protected against possible OSH risks through the following measures:

- Identification of potential hazards to workers within their respective area;
- Provisions of preventive and protective measures;
- Training of workers on safety measures and conduct of drills in case of calamities;
- Documentation and reporting of occupational incidents;

- Emergency preparedness;
- Remedies for occupational injuries and fatalities.

The Project will also abide by Project Implementation Guidelines during COVID-19 pandemic for civil works.

Child Labor

To prevent engagement of underage workers, the age employment scheme provided under the Age of Employment Section hereof should be strictly observed by the hiring authority. Proper procedure in the screening, with age verification, shall be undertaken in the selection of workers to ensure that no child shall be employed in the implementation of the project. Likewise, all contracts must have a provision as to the minimum age requirement and the hiring authority shall keep a labor registry of all hired workers.

Labor disputes over terms and conditions of employment

Fair, reasonable and lawful terms and conditions shall be applied in the contract provisions of all project workers to prevent labor disputes. Moreover, there will be an efficient grievance mechanism to address any issues that may arise during the existence of the contract. The guidelines provided under GRM Section hereof shall be strictly observed to resolve work-related disputes including terms and conditions of employment.

Gender-Based Violence

During procurement of the contractor, the PIU will ensure that all contractors have in place a code of conduct (see Annex for Sample Generic Code of Conduct for Contractors) for all its workers and subcontractors that respects women and girls and prohibits all forms of gender-based violence including verbal sexual harassment. During subproject implementation, the contractor will ensure that (i) all workers are aware of these codes of conduct through trainings, seminars, or orientations, and (ii) signage and posters in key areas in the construction site are put up. The PIU will encourage school administrations to raise awareness on gender-based violence among their students, how they can protect themselves against it, and what they need to do when they feel they have been wronged.

VIII. AGE OF EMPLOYMENT

A. Minimum Age of Employment

According to Article 137 of the Labor Code of the Philippines, no person below eighteen (18) years of age shall be allowed to be employed in an undertaking which is hazardous or deleterious in nature as determined by the Secretary of Labor and Employment.
Considering the scope of the project, it is unlikely that the project would hire a person below eighteen (18) years of age.

B. Age Verification Process

To prevent engagement of underage workers, an age verification process is required to be undertaken by the winning contractor/consultant prior to the engagement of the project worker. All contractual provisions should comply with the minimum age requirements and the responsible staff is required to maintain a labor registry of all hired project workers.

IX. TERMS AND CONDITIONS

A. Specific Wage

Individuals hired through COS shall be paid by the prevailing market rates, subject to the provisions of Republic Act No. 9184 and its Implementing Rules and Regulations; whereas, individuals hired through job order shall be paid wages equivalent to the daily wages/salary of comparable positions in government and a premium of up to 20% of such wage/salary.

Workers employed by the third parties for the retrofitting works shall be paid in accordance with the Labor Code. Minimum wage rates to be applied shall be those prescribed by the Regional Tripartite Wages and Productivity Boards.

B. Hours of Work

The normal hours of work of project workers shall not exceed 8 hours a day, exclusive of time for meals. If the worked performed exceeds the normal working hours, overtime pay shall be given.

C. Rest Per Week

Direct worker is entitled to a 2-day rest period during weekends (Saturday and Sundays). Contracted workers shall also be entitled to rest days depending on the terms and conditions stated in their contract. At minimum, they shall have a rest period not less than twenty-four (24) consecutive hours after every six (6) consecutive normal workdays. Both direct and contracted workers shall also be entitled to a rest day on regular holidays recognized by the State.

D. Termination of Contract

The contract of employment shall cease at the end of the period stated therein. However, the contract may be pre-terminated by the hiring authority due to failure to provide the standard of service required under the agreement, breach of any provision thereof, breach of trust, loss of confidence, and for reasons detrimental to the interest of the agency, provided that the project worker is informed in writing at least 30 days prior to the effectivity of such termination. Likewise, the project worker may pre-terminate the contract provided that a written notice is submitted to the hiring authority, stating therein the reasons for the pre-termination, at least 30 days prior to the proposed date of effectivity thereof, and the same has been received, accepted, and approved in writing by the hiring authority.

E. Deduction from Remuneration

No deductions other than those agreed upon in the contract or those prescribed by law or regulations shall be made from a worker's remuneration. The hiring authority is prohibited to demand or accept from the worker any cash payment or gifts in return for admitting such worker to employment or for any other reasons connected with the terms and conditions of employment.
Medical Treatment of Injured and Sick Workers

Any injury, illness or accident sustained by the worker during the work period shall be conveyed to the nearest clinic or hospital by the hiring authority or its representative. For workers who are suspect or confirmed COVID-19 patients, the Project will abide by the Project Implementation Guidelines during COVID-19 pandemic.

X. GRIEVANCE REDRESS MECHANISM (GRM)

At the time of recruitment, workers will be informed of the grievance mechanism and the measures put in place to protect them against any reprisal for its use. The grievance mechanism shall be made

easily accessible to all project workers. Regular meetings with the project workers to discuss any work-related issues and concerns will be conducted. Every grievance raised by a worker will be documented with the actions undertaken by the office to address such grievance. The aggrieved worker may raise any issue anonymously through a letter which shall be submitted to his/her immediate supervisor's office. All non-anonymous grievances relative to adequate working conditions, standard occupational safety and health and other concerns from the workers shall be addressed following the procedures outlined below:

The grievance shall be filed by the workers to the Contractor who shall follow the DOLE procedures in handling the complaints. The Contractor shall act within 15 days upon receipt thereof;
If no understanding or amicable solution can be reached, or if the complainant does not receive a response from the Contractor within 15 days of registry of the complaint, he/she can appeal to the PIU, which should act on the complaint/grievance within 15 days from the day of its filing. If the PIU does not see itself fit to address the complaint it will immediately bring the matter to the concerned DOLE office.
If the complainant is not satisfied with the resolution offered by the PIU, he/she can appeal to the concerned DOLE office, which should act on the complaint/grievance within 15 days from the day of its filing.

XI. CONTRACTOR MANAGEMENT

With the engagement of people through third parties (contractors and consultants) in the implementation of the PSRRRP Project, procedures for managing and monitoring their performance should be established. The Project will incorporate the requirements of ESS2 in the contract agreements with the third parties together with appropriate non-compliance remedies.

XII. COMMUNITY WORKERS

The project will not involve community workers for the retrofitting works. All workers to be employed by the contractor will comply with RA 6685 which states that all private contractors and subcontractors who have been awarded national and local public works projects, including foreign-assisted projects, by the National Government or any local government unit, must employ 50% of the unskilled and 30% of the skilled labor requirements from the unemployed bona fide and actual residents in the province, city and municipality who are ready, willing and able as determined by the governor, city mayor or municipal mayor concerned where the projects are to be undertaken.

XIII. PRIMARY SUPPLY WORKERS

The PSRRRP project will not require the services of a primary supply worker considering that the needed supplies for the conduct of activities thereunder will undergo the process of procurement in accordance to the existing procurement laws, rules and regulations.

Annex
Sample Generic Code of Conduct for Contractors

This Code of Conduct identifies the behavior required from all personnel of _(name of contractor's firm)_ working at the _____subproject site .

Unsafe, offensive, abusive or violent behavior will not be tolerated and all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

All (name of contractor's firm) personnel shall:

1. carry out his/her duties competently and diligently;

2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other contractor's personnel and any other person;

3. maintain a safe working environment by:
a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
b. wearing required personal protective equipment;
c. using appropriate measures relating to chemical, physical and biological substances and agents; and
d. following applicable emergency operating procedures;

4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;

5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers, indigenous people, or children;

6. not engage in sexual harassment, i.e. unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature;

7. not engage in sexual exploitation, or any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to: profiting monetarily, socially or politically from the sexual exploitation of another;

8. not engage in sexual abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;

9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;

10. not engage in any other form of harassment, mental or physical coercion, or verbal abuse of its employees;

11. undergo relevant training or orientation that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters;

12. report violations of this Code of Conduct; and

13. not retaliate against any person who reports violations of this Code of Conduct.

RAISING OF CONCERNS

If any person observes a behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly to:
Name, address and contact number of person designated
by contractor to handle social issues/concerns)

This can be done either in writing, by telephone, or in person.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

Sanctions
Any employee who has breached this Individual Code of Conduct will be subject to any of the following actions:

- Informal warning
- Formal warning
- Loss of up to one week's salary
- Suspension of employment (without payment of salary), for a minimum period of ____ up to a maximum of _____.
- Termination of employment
- Reporting to the police if warranted

_____
Project-in-Charge
(Name of Contractor's Firm)

ANNEX F
STAKEHOLDER ENGAGEMENT PLAN

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Bonifacio Drive, Port Area, Manila

Philippines Seismic Risk Reduction and Resilience Project (PSRRRP)

ANNEX F

STAKEHOLDERS ENGAGEMENT PLAN (SEP)

October 2020

LIST ACRONYMS AND ABBREVIATIONS

CC	-	Cabinet Committee
CNC	-	Certificate of Non-Coverage
COVID-19	-	Coronavirus disease
DBM	-	Department of Budget and Management
DENR	-	Department of Environment and Natural Resources
DEO	-	District Engineering Office
DEPED	-	Department of Education
DOF	-	Department of Finance
DOH	-	Department of Health
DOST	-	Department of Science and Technology
DPWH	-	Department of Public Works and Highways
ECC	-	Environmental Compliance Certificate
EIA	-	Environmental Impact Assessment
ESF	-	Environmental and Social Framework
ESMF	-	Environmental and Social Management Framework
ESMP	-	Environmental and Social Management Plan
ESS	-	Environmental and Social Standards
FDG	-	Focus Group Discussion
GBV	-	Gender-based violence
GMMA	-	Greater Metro Manila Area
GRC	-	Grievance Redress Committee
GRM	-	Grievance Redress Mechanism
ICC	-	Investment Coordination Committee
IO	-	Implementing Office
LGU	-	Local Government Unit
LMP	-	Labor Management Plan
MOA	-	Memorandum of Agreement
NCCA	-	National Commission for Culture and the Arts
NEDA	-	National Economic and Development Authority
PAC	-	Project-affected Community
PAP	-	Project-affected Person
PEIS	-	Philippine Environmental Impact Assessment System
PIU	-	Project Implementing Unit
PSRRRP	-	Philippines Seismic Risk Reduction and Resiliency Project
PTA	-	Parents-Teachers Association
RO	-	Regional Office
SEMS	-	Social and Environmental Management System
SEP	-	Stakeholder Engagement Plan
SMS	-	Safeguards Monitoring Section
TB	-	Technical Board
UP-ICE	-	University of the Philippines – Institute of Civil Engineering
WB	-	World Bank

LIST TABLES

I. INTRODUCTION

Metro Manila is highly exposed to earthquake hazards, combined with the vulnerability of buildings and infrastructure, leading to very high risk of loss of life, direct damage, and economic losses from earthquakes. The proposed Philippines Seismic Risk Reduction and Resilience Project (PSRRRP) will directly strengthen/upgrade a subset of at-risk public buildings, enable the implementation of a risk-based prioritization approach, and ensure appropriate and efficient risk reduction interventions for vulnerable building typologies that could be applied across Greater Metro Manila. Similarly, the investments in the emergency preparedness and response capabilities of Department of Public Works and Highways (DPWH) will improve the agency's capacity to execute its mandate under the National Disaster Response Plan, Oplan Metro Yakal Plus, and other relevant national plans with respect to the actions that will be carried out immediately after the occurrence of a major earthquake in Greater Metro Manila Area (GMMA) (as well as other more frequent natural disasters, including health emergencies).

The objectives of the proposed PRSRRP are to enhance the: (i) safety and seismic resilience of selected public buildings in Metro Manila, and (ii) capacity of the DPWH to prepare for and respond to emergencies.

The PSRRRP is proposed to have four components: (1) Improving Multi-Hazard Resilience of Public Buildings and Facilities, (2) Improving Emergency Preparedness and Response in Public Works, (3) Project Management, and (4) Contingency Emergency Response.

The Project has developed an Environment and Social Management Plan to mitigate the Project's risks on the environment and people. As part of the Project's aim of addressing social risks related to the implementation of the subprojects, this Stakeholder Engagement Plan (SEP) is prepared. The SEP is in line with public participation as a key feature of DPWH performance requirements. For DPWH projects including those that are not funded by international organizations such as the World Bank or ADB, public participation is a major component in project planning which establishes the socio-economic conditions of the people within, and surrounding the project areas, and identifies the impacts, risks and mitigation measures, benefits and opportunities. Prior to the regulatory Environmental Impact Assessment (EIA) process, project proponents are encouraged to conduct social preparation thru public consultation. The approach involves consultations which are open and participatory activities designed to provide opportunities for communities and affected persons to give feedback on Project risks, impacts and mitigation measures. Such consultations are based on inclusive and culturally appropriate processes to effectively engage and facilitate inclusion of impacted groups.

The typical activities involved in carrying out the social impact assessment in an Environmental Impact Assessment (EIA) undertaking are summarized in Table 1.

Table 1. Social Impact Process and Activities

Activities	Outputs
1. Social preparation - IEC Conduct of consultation, project orientation and screening	Raised public awareness, views and feedback obtained regarding the project
	Projects are screened, and potential impacts initially identified
2. Identification of stakeholders	Listings of stakeholder
3. Data gathering a. Review of Secondary data (policies, other studies) b. Conduct of perception survey/FGD c. Conduct of inventory of losses of PAFs	Primary/secondary data obtained. a. Policies reviewed b. Views, issues/feedback, recommendations obtained c. Baseline information of PAPs, Profile of PAPs/views obtained Estimates on compensation
4. Data Encoding and Analysis	Baseline information established benefits and impacts identified and analyzed
5. Prepare Safeguard Documents	Environmental and Social Management Plan (ESMP)
6. Conduct of Public Engagement	Disclosure of the project study to the Stakeholders
7. Implementation and Monitoring	Internal and external monitoring conducted

This SEP is being prepared as an integral part of the environmental and social risk management measures of the project. The SEP is also required under the World Bank's Environmental and Social Framework (ESF), particularly Environmental and Social Standard 10 on Stakeholder Engagement and Information Disclosure (ESS10). The SEP provides stakeholders with opportunities to contribute to the project preparation, express their views on the risks, impacts and mitigation measures of the project to the environment and the community.

II. OBJECTIVES

This SEP aims to:

i. identify the key stakeholders of the project;
ii. set out how the information dissemination and consultations with stakeholders will be handled throughout project preparation and implementation;
iii. describe the timing and methods of engagement with various stakeholder groups;
iv. describe the range and timing of information to be communicated to project affected parties and other interested parties as well as the type of information to be sought from them;
v. describe measures to remove obstacles to participation and to ensure how the views of the differently affected groups will be captured.

III. STAKEHOLDER MAPPING AND ANALYSIS

This section provides the identified stakeholders and their interest in the project. A stakeholder is defined as any person or organization who is affected by the Project or who have influence over or hold an interest in the project. The Project's stakeholders have been identified below. As the project advances in implementation, the SEP will be updated to include any additional stakeholders.

(i) Affected Persons/Communities (AP/Cs) are individuals, groups, local communities, and other stakeholders that may be directly or indirectly, positively or negatively by the Project. These include a) Public Schools administration, faculty and students and their parents, b) Hospital/health facilities administration, medical staff and patients, c) community around the project site who may be affected by the impacts during construction

(ii) Interested Parties are stakeholders who may be interested in the project because of its location, its proximity to natural or other resources, or because of the sector or parties involved in the project. These may be national agencies, local government officials, community leaders, and civil society organizations, particularly those who work in or with the affected communities.

Understanding the project impacts and its possible effect on the vulnerable sector is necessary. Those individuals who often do not have a voice to express their concerns or understand the impacts of a project should be given consideration.

The project will be implemented by the DPWH. However, various other government agencies will be involved and will have key roles in the implementation of projects specifically for the retrofitting works. The said activity will involve Department of Education (DepEd) and Department of Health (DOH) which are the asset owners of public-school buildings and hospital facilities to be retrofitted, respectively. The Table 2 below further details the key stakeholders involved in the PSRRRP.

Table 2. Key Stakeholders of the PSRRRP

Stakeholder	Interest on the Project	Degree of Influence on the Project	Role/Potential Role in the Project
DPWH	High	High	Lead implementing agency
DepEd	High	High	Key partner in the management of retrofitting projects for school buildings including the implementation of safeguards
DOH	High	High	Key partner in the management of retrofitting projects for hospital facilities including the implementation of safeguards

Stakeholder	Interest on the Project	Degree of Influence on the Project	Role/Potential Role in the Project
Public Schools Administration (including engineering/ building maintenance staff)	High	High	Main Beneficiary but also the most affected in terms of the Project's impacts; Main decision-making body on behalf of users of school buildings
Public health facilities administration (including faculty, engineering/building maintenance staff)	High	High	Main Beneficiary but also the most affected in terms of the Project's impacts; Main decision-making body on behalf of users of health facilities
Students	High	Medium	Main beneficiary but also the most affected especially those that would need to transfer temporarily or whose classes would be disrupted; Students in proximity to workers and construction may be at greater risk of harassment
Patients in health facilities that may need to be moved	High	Medium	Main beneficiary but also the most affected
Concessionaires and in situ small business owners and workers whose incomes may be temporarily disrupted	High	Medium	Main beneficiary but also among the most affected
Local Government Units	Medium	High	May need to issue permits related to traffic and construction; Will be advantageous in organizing public consultations with affected communities/citizens around the subproject area

Stakeholder	Interest on the Project	Degree of Influence on the Project	Role/Potential Role in the Project
DOST, UP-ICE	High	Medium	Key partner in the development of a multi-hazard selection and prioritization framework for seismic upgrade or retrofit of selected public buildings and facilities for Component 1
NEDA, DBM, DOF	High	High	Oversight Agencies
Communities around schools or health facilities	Medium	Medium	Need to be informed and/or consulted about possible disruptions during subproject implementation

Department of Education (DepEd). The DepEd is responsible for the management of educational facilities including the projects and programs to be implemented related to it. As the asset owner of public-school buildings, the agency is task to monitor the implementation of the retrofitting projects; ensure compliance with the approved designs, specifications and program of works and safeguard documents together with the assigned team from DPWH.

Department of Health (DOH). The DOH is mandated to lead in the continuous development of quality health facilities. As the asset owner of health facilities, the agency is responsible for monitoring the implementation of the retrofitting projects; ensure compliance with the approved designs, specifications and program of works and safeguard documents.

Public Schools and Health Facilities Administration (including faculty staffs, students, health staffs and patients). Schools and health facilities administration, including the faculty staffs, students, and health staffs, are the main beneficiaries of the projects. Since disruption of day-to-day activity may happen, consultation on the design and construction procedure is needed. Policy and guidelines of the school and health facility should be considered in the project preparation.

Local Government Units (LGUs). The local government have interest on the retrofitting projects since it will be implemented within their area. The LGUs can facilitate consultations and meetings with the affected communities.

Department of Science and Technology (DOST). The DOST is task to assist the implementing agency in considering the effects of multi-hazard in each site (school buildings and health facilities) during the detailed engineering phase using the DOST-PHIVOLCS GeoRisk PH.

University of the Philippines – Institute of Civil Engineering (UP-ICE). The UP-ICE, as the consultant during the project preparation, will assist the implementing agency in developing the multi-factorial prioritization framework to identify the risk factors deemed significant in the decision process.

Communities around schools or health facilities. Citizens/communities may experience temporary disruptions during retrofitting. They would need to be informed and/or consulted on how construction and traffic will likely impact them.

IV. STAKEHOLDER ENGAGEMENT DURING PROJECT PREPARATION

Prior to project conceptualization, DPWH in coordination with DepEd, DOH, and Local Government Units, conducted series of rapid visual screening of public buildings in Metro Manila. DepEd, DOH and LGUs provided the list of buildings and DPWH conducted the assessment. The list includes public school buildings, hospitals, health centers, barangay halls and other government-owned buildings. The assessment is designed to identify which buildings in Metro Manila are for repair, for retrofitting, or for condemnation. The results of the assessment were considered in the conceptualization of the project. Also, the list of identified buildings for retrofitting was used as baseline data.

Before the pandemic, a series of site visits were also conducted in on-going DPWH Regular Infrastructure Retrofitting Projects in Metro Manila. Sites visited include the projects inside the Lung Center of the Philippines, Ramon Magsaysay Cubao High School, Cubao Elementary School among others. Project managers and facility administrators were consulted in relation with the implementation of social and environmental safeguards, particular on the issues and problems encountered. Observations and results of the consultations were used in drafting the safeguards documents.

During project preparation, DPWH conducted a series of meetings with its key partner agencies, particularly with DepEd and DOH to discuss about the project and to come-up with a tripartite Memorandum of Agreement (MOA) that details the roles and responsibilities of each agency. The MOA also defines the duties of each agency in the implementation of social and environment safeguards. Some of these meetings were held online because COVID-19 pandemic struck while the project was being prepared.

The DPWH through a letter to the DENR, dated 29 June 2020, has requested the issuance of CNC for the project. In the letter, DPWH noted that based on the Philippine Environmental Impact Statement (EIS) System guidelines, the project is not covered and is not required to secure an Environmental Compliance Certificate (ECC) given the project's location, nature, and the size of eligible government buildings to be retrofitted in Metro Manila.

The preparation team has coordinated with oversight agencies e.g. NEDA and DBM to prepare for formal approval of the Investment Coordination Committee-Technical Board (ICC-TB) and ICC-Cabinet Committee (ICC-CC).

Table 3 summarizes the series of meetings conducted and further consultations that are planned on the project. Some of these meetings were held online because of COVID-19 pandemic. Internal meetings with other DPWH bureaus and regional and district engineering offices were also held on December 22, 2020 to discuss the experiences from past retrofitting projects and the issues and key lessons encountered on environment and safeguards that provided valuable inputs in the ESMF.

Table 3. Consultation meetings during project preparation

Date	Stakeholder Consulted	Topics Discussed
November 2019	DOH	Coordination meeting on project concept
February 2020	DepEd	Coordination meeting on project concept
February 2020	DepEd, DOH, Project Manager, and Facility Administrators	Site visits to ongoing DPWH-funded retrofitting projects. Issues and problems encountered on project implementation, including social and environment safeguard issues.

March 2020	DepEd and DOH	Coordination meeting on Project Endorsement Letters and draft Tripartite MOA
June 2020	DepEd and DOH	Coordination meeting on finalization of tripartite MOA
September – October 2020	NEDA, DBM	Meeting on the project's review and approval of the ICC-TB and ICC-CC
December 22, 2020	Bureau of Maintenance, District Engineering Offices DPWH Regional Office, NCR	Discuss the experiences from past retrofitting programs and the environmental and social issues encountered and lessons for improvement in future building retrofitting activities.
To be scheduled prior to appraisal	Bureau of Design, Bureau of Construction, Bureau of Maintenance	Discuss the experiences on design and construction of past retrofitting programs, cost consideration for environmental and social mitigation measures, and clarify roles and responsibilities on safeguards
To be scheduled prior to appraisal	Schools, health facilities, DepEd-NCR and DOH-NCR, LGUs, NGOs	Discuss the building selection process and criteria, methods of retrofitting works, and environmental and social issues and mitigation
To be scheduled prior to appraisal	DepEd, DOH, DPWH bureaus, district and regional offices, LGUs, NGOs	Discuss the project, ESMF and other instruments to gather comments on the project design, E&S procedures and mitigation plans.

Future consultations meetings may be held through visual online meetings in view of the COVID-19 pandemic. The project's objectives and implementation approaches will be extensively discussed and consulted with the stakeholders to build greater awareness of the importance of seismic risk reduction measures, to gather comments on the project design, and to clarify concerns about the project. The ESMF, CSHP, SEP, and the Environment and Social Commitment Plan (ESCP) will be updated based on inputs from various stakeholders and will be disclosed at the DPWH and World Bank websites prior to appraisal.

V. STAKEHOLDER ENGAGEMENT DURING PROJECT IMPLEMENTATION

This section outlines the different levels of stakeholder engagement processes and methodologies during the implementation of PSRRRP.

A. Methods of Engagement

During project implementation, the project proponent shall conduct consultations with stakeholders of specific subprojects including the administrations of schools and health facilities, parent-teacher associations, and the affected communities. In addition, consultations will be held with the partner agencies (i.e. DepEd and DOH) to review the roles and responsibilities of each agency in project implementation, update progress and resolve issues relative to the project.

During pandemic (COVID-19), the Project will abide by the health and safety guidelines related to public consultations including observance of social distancing measures as stipulated in the ESMF annex on Safeguards Considerations during Public Consultations. Face-to-face interactions will be limited, and alternative modes of consultation and information dissemination will be explored and utilized.

To enhance the effectiveness of the engagement process, the following principles will be adhered to:

- the culture, fundamental human rights, values and traditions of stakeholders are respected in accordance with established legal precedent and accepted practice in the Philippines;
- stakeholders are treated with sensitivity and respect in terms of their issues, views and suggestions;
- interaction with stakeholders is meaningful, culturally appropriate (including language, as needed), and is timely, transparent and responsive;
- vulnerable groups are included in the engagement to assess differential needs and perceptions of stakeholder groups (i.e. men, women, youth);
- data from stakeholder engagement is incorporated into assessments site-specific environmental and social management and mitigation plans as needed;
- access to information and disclosure will be ensured to ensure stakeholders are informed about the Project, its potential benefits, impacts and risks, affected peoples' entitlements, GRM channels; and
- informed consultation without coercion to ensure that communities and households have power of choice to participate, or not, in the Project.

The PIU's safeguards officer together with the implementing office (RO/DEO) shall carry out the consultations under the SEP. Consultations will focus on explaining the Project, its impacts and mitigating measures as well as a describing the grievance redress mechanism. Upon request, consultations may also cover:

1. DPWH earthquake resilience programs to ensure the safety of all public infrastructures;
2. Long-term benefits of seismic retrofitting programs;
3. Facility-based disaster risk awareness;
4. Public awareness campaigns regarding the earthquake safety measures and plans for the Metro Manila in preparation for the "The Big One" Scenario; and
5. Individual survival safety measures.

B. Levels and Frequency of Engagement

The Table 4 below summarizes the stakeholder engagement activities at different levels during the project implementation.

C. Disclosure Requirements

This SEP, the ESMF, LMP, and the ESF have been disclosed in the DPWH and World Bank websites prior to appraisal. Updated ESF documents during project implementation will be uploaded in DPWH and World Bank websites. If needed, project information including impacts and mitigating measures will also be summarized in leaflets or brochures to be distributed with sufficient social distancing measures in the time of pandemic (COVID-19). During the pandemic, the locality's ways of disseminating information that have proven to be both effective and safe will be adopted.

VI. GRIEVANCE REDRESS MECHANISM (GRM)

The project's grievance redress mechanism will address stakeholders' concerns and complaints promptly, using a transparent process that is responsive, culturally appropriate, and readily accessible to all segments of the affected communities at no cost and without retribution. The mechanism should

not impede access to the country's judicial or administrative remedies. The redress mechanism will be communicated to the nearby communities and stakeholders of the project and subprojects. A separate grievance redress mechanism for the workers is established to address their complaints and is described in the Labor Management Procedures.

A Memorandum of Agreement (MOA) will be forged between the project proponent and the asset owners on the procedures in the proper handling of grievances and also the need to create a Grievance Redress Committee (GRC) composed of representatives from the asset owner, the implementing office and the contractor. GRC will receive, evaluate and facilitate the resolution of concerns, complaints and grievances of all stakeholders.

A. Procedure for filing the formal Complaint/Grievance:

1. Any key stakeholder of the project may file a complaint.
2. Complaint should be made to Grievance Redress Committee (GRC). It may be oral, by email (*insert specific email for the project complaints*) or in writing. If the complaint is oral, it will be converted into a written form by the GRC member who received the complaint and authenticated by the complainant under his / her signature as soon as possible.
3. If the complainant would not like to reveal his/her name for any grievance, they can drop the grievance(s) in the drop box specific for the project.
4. All complaints received by any member of the committee shall be forwarded to (*email*) for proper documentation.

Table 4. Stakeholder Interactions during Project Implementation

Level of Interaction	Stakeholder	Nature of Interaction	Objective	Timeline/Frequency
National	DepEd Central Office representative/s	Coordination Meeting	To discuss the implementation arrangement and timeline of the project.	Before issuance of the Notice to Proceed (NTP) to the contractor.
		Progress Meeting	Update the progress, resolve issues and other concerns about the project.	Quarterly or as necessary
	DOH Central Office representative/s	Coordination Meeting	To discuss the implementation arrangement and timeline of the project.	Before issuance of the Notice to Proceed (NTP) to the contractor.
		Progress Meeting	Update the progress, resolve issues and other concerns about the project.	Quarterly or as necessary
Project Level	School Administrator/s	Project Awareness and Coordination Meeting	To discuss the project's objectives, long-term benefits, implementation arrangement and timeline of the project.	Before project mobilization
		Progress Meeting	Update the progress, resolve issues and other concerns about the project.	Monthly or as necessary
	Hospital/Health Facility Administrator/s	Project Awareness and Coordination Meeting	To discuss the project's objectives, long-term benefits, implementation arrangement and timeline of the project.	Before subproject mobilization
		Progress Meeting	Update the progress, resolve issues and other concerns about the project.	Monthly or as necessary
Community Level	Affected Persons i.e. Parents-Teachers Association (PTA), Students, Patients, nearby LGUs, concessionaires, and others	Project Awareness and Consultation	To inform the affected persons of the project benefits, impacts and corresponding mitigating measures; consult with them on issues they may have based on the impacts presented and work out possible ways to address those issues	Before subproject mobilization

B. Process for addressing the Grievance:

1. Upon receipt of complaint, the GRC should send a response to the complainant acknowledging the receipt of grievance within 48 hours.
2. Based on the nature of the complaint and severity of its possible impact, the GRC may take one of the two options to proceed on addressing the concerns:

    a. **Option 1** which can be exercised on matters that could be more routine operation:

        i. The asset owner representative may issue a direct instruction to the implementing office and contractor regarding the complaints in the construction.
        ii. It is important that the complainant is well-informed of the actions taken or the work-in-progress within 15 days upon acknowledging receipt of grievance.
        iii. Once the matter has been resolved the GRC should send a final update to the complainant on the matter.

    b. **Option 2** which can be exercised in matters of very serious concern:

        i. The GRC must convene for a meeting immediately after the complaint has been filed.
        ii. The Committee, as required, may also call for a deposition by the complainant and the person/s involved in the complaint.
        iii. Final decision of the GRC has to be communicated to the complainant within 15 days of the receipt of the complaint.

3. If no understanding or amicable solution can be reached, or if the complainant does not receive or is dissatisfied with the response from the GRC within 15 days of registry of the complaint, he/she can appeal to the PSRRRP Project Implementing Unit (PIU), which should act on the complaint/grievance within 15 days from the day of its filing. Representative from the PSRRRP Project Implementing Unit (PIU) may be contacted in the following means: email address: xxxxx; office address: xxxx; Telephone No.: xxxxxxx; CP no.)

4. If the PAP/PAC is not satisfied with the decision of the PSRRRP PIU, he/she, as a last resort, can submit the complaint to any court of law.

VI. INSTITUTIONAL ARRANGEMENT AND RESOURCES

The implementation of the SEP will be consistent and aligned with the project implementation arrangements to ensure that engagement of the stakeholders of the project will be carried out from project preparation to implementation. Generally, oversight for the Project will be by the DPWH ER-PMO. Particularly, all pre-construction activities of the project including all stakeholder engagement activities during project preparation will be managed by the Project Preparation-Technical Working Group (TWG) and the Project Implementing Unit (PIU) will supervise the conduct of the stakeholder engagement activities during project implementation phase. The DPWH Regional Offices (RO) or District Engineering Offices (DEO) shall serve as the implementing office and will implement all engagement activities at the project and community levels.

A designated Safeguards Monitoring Section (SMS) under the PIU shall be created which will ensure the proper and strict implementation of the SEP throughout the project cycle. The SMS will be staffed with designated DPWH Safeguards Specialists as internal evaluators and specialists from other interested parties (partner agencies: DepEd and DOH) as external evaluators.

VII. STAKEHOLDER ENGAGEMENT MONITORING AND EVALUATION

Project orientation will be conducted in the different public schools and government hospitals covered by the World Bank Projects to update the stakeholders on the approved process and requirements for project implementation.

Meetings with stakeholders shall be documented, highlighting agreements and ways forward which will be monitored throughout project implementation. DPWH will maintain a database and activity file detailing all public consultation, disclosure information and grievances collected throughout the project, which will be available for public review on request.

Stakeholder engagement will be periodically evaluated by the DPWH Safeguards Specialists and, Safeguards Monitoring Section (SMS) of the PIU. The following will be assessed during evaluation:

a. Satisfaction of project stakeholders with the methods used for engagement; and
b. Efficiency and effectiveness and of the grievance redress mechanism,

Indicators will be developed, and sources of data will be specified during Project implementation.

ANNEX G

ESMP CHECKLIST FOR BID EVALUATION

Annex G: Checklist for Evaluation of site-specific ESMP of Contractor

Name of Subproject:	
Location:	
Project owner:	
Name of contractor:	
Estimated start of project:	
Estimated duration:	
Scope of work:	

	Yes	No	Remarks
Site-Specific ESMP must contain the following:			
1. Non-Hazardous solid waste management:			
a. solid waste segregation and collection system			
b. solid waste disposal			
c. frequency of collection			
d. location of disposal site			
e. solid waste contractor			
2. Hazardous waste management:			
a. hazardous waste generator registration (approved by DENR)			
b. asbestos material management system			
c. hazardous waste segregation area			
d. hazardous waste transporter (registered with DENR)			
e. hazardous waste treater (registered with DENR)			
3. Name/s of Site Pollution Control Officer (PCO) or Safeguards Officer Must specify the name of the PCO, DENR-accreditation, and PCO Accreditation Certificate			
4. Sanitation Must specify domestic wastewater management, provision of safe and potable water supply for workers, housekeeping of site			
5. Air pollution control			
6. Noise and vibration control			
7. Emergency response plan in case of spills of fuel and hazardous materials			
8. Drainage management Must specify measures to control soil runoff, clogging of canals, sedimentation of creek/rivers			
9. Traffic management Must specify delivery schedule, location of yard			
10. Community health and safety			
a. Stakeholder consultation plan and information disclosure			
b. Measures to protect the general public within the vicinity of the construction site			
c. Plan for temporary relocation of affected classroom/health facility			
d. Provision of barriers and warning signages			
e. Grievance redress mechanism			

	Yes	No	Remarks
11. Disaster emergency preparedness contingency plan			
12. COVID-19 health and safety protocols			
13. Chance Find Procedure			
14. Budget for implementation of environmental mitigation measure			
C. Attachments			
1. Photocopy of PCO Accreditation Certificate from DENR			
2. Photocopy of Certificate of Completion of required PCO training			
3. Labor Management Procedure			
4. Grievance Redress Mechanism			
5. Photocopy of DENR Hazardous Waste Generator Registration ID			
6. Photocopy of DENR registration of Hazardous Waste Transporter			
7. Photocopy of DENR registration of Hazardous Waste Treater			

ANNEX H

SAFEGUARDS CONSIDERATIONS FOR PROJECT IMPLEMENTATION DURING COVID-19

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Bonifacio Drive, Port Area, Manila

Philippines Seismic Risk Reduction and Resilience Project (PSRRRP)

ANNEX H

SAFEGUARDS CONSIDERATIONS FOR PROJECT IMPLEMENTATION DURING COVID-19

October 2020

I. INFORMATION DISSEMINATION AND PUBLIC CONSULTATIONS

1. Identify and review planned activities under the project requiring stakeholder engagement and public consultations.

2. Assess the level of proposed direct engagement with stakeholders, including location and size of proposed gatherings, frequency of engagement, categories of stakeholders (international, national, local) etc.

3. Assess the level of risks of the virus transmission for these engagements, and how restrictions that are in effect in the country / project area would affect these engagements.

4. Identify project activities for which consultation/engagement is critical and cannot be postponed without having significant impact on project timelines. For example, selection of resettlement options by affected people during project implementation. Reflecting the specific activity, consider viable means of achieving the necessary input from stakeholders (see further below).

5. Assess the level of ICT penetration among key stakeholder groups, to identify the type of communication channels that can be effectively used in the project context.

6. Based on the above, the Project Proponent needs to identify the specific channels of communication that should be used while conducting stakeholder consultation and engagement activities. The following are some considerations while selecting channels of communication, in light of the current COVID-19 situation:

    - Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings;

    - If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings. If not permitted, make all reasonable efforts to conduct meetings through online channels, including webex, zoom and skype;

    - Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chatgroups appropriate for the purpose, based on the type and category of stakeholders;

    - Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) when stakeholders do not have access to online channels or do not use them frequently. Traditional channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;

    - Where direct engagement with project affected people or beneficiaries is necessary, such as would be the case for Resettlement Action Plans or Indigenous Peoples Plans preparation and implementation, identify channels for direct communication with each affected household via a context specific combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators;

    - Each of the proposed channels of engagement should clearly specify how feedback and suggestions can be provided by stakeholders;

- An appropriate approach to conducting stakeholder engagement can be developed in most contexts and situations. However, in situations where none of the above means of communication are considered adequate for required consultations with stakeholders, consider if the project activity can be rescheduled to a later time, when meaningful stakeholder engagement is possible.

II. CIVIL WORKS

A. Responsibilities of the Project Proponent

1. The Project Proponent should request details in writing from the main Contractor of the measures being taken to address the risks. 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.

2. The Project Proponent 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.

3. 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.

4. 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 Project Proponent 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.

5. The Project Proponent 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 Project Proponent 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.

6. 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.

7. The head of the concerned Implementing Office (IO) shall issue construction quarantine pass (QP) to the individual qualified personnel of the concessionaires, contractors, subcontractors, and suppliers, clearly stating the identification, designation, nature of work, validity and destination. It is understood that the QP shall cover transit of personnel from (a) GCQ area to ECQ area, and vice versa and (b) an area not under community quarantine to a GCQ or ECQ area, and vice versa.

B. Responsibilities of the Contractor

Prior to Deployment

1. Only persons from Twenty-One (21) to Fifty-Nine (59) years of age, without pre-existing health conditions, such as, but not limited to, immunodeficiency, comorbidities, or other health risks, including any person who resides with the aforementioned; and who did not come into contact with someone with COVID-19 shall be allowed to be included in the workforce. Employees or consultants who are 60 years of age or above may be part of the workforce for construction projects as may be allowed under GCQ and ECQ guidelines under Omnibus Guidelines on the Implementation of Community Quarantine in the Philippines ("OG") dated 29 April 2020.

2. Construction personnel shall be required to undergo any available COVID-19 test, as may be prescribed by DOH, and retested as the need arises. In this regard, consultation with medical doctors (duly accredited by DOH, if possible) prior to the conduct of COVID-19 test shall be made.

3. The concessionaires, contractors, subcontractors, and suppliers shall provide for their personnel/workers the necessary welfare facilities and amenities, such as employees' quarters for board and lodging, ensuring compliance to social distancing, proper hygiene, etc. Contractors shall submit the design for the said welfare facilities and amenities, for monitoring, to the District Engineering Offices or Regional Offices.

4. Contractors shall ensure that their projects are in compliance with DOLE D.O. NO. 13 series of 1998. Contractors shall provide their personnel and workers continuous supply of vitamins, particularly vitamin C, other over - the - counter medicines, quarantine facilities, and oxygen tanks for emergency purposes.

5. Contractors shall provide disinfection facilities in their respective project sites in compliance with pertinent DOH and IATF Guidelines, to be placed at strategic locations to ensure the safety and welfare of all personnel.

6. Proper information dissemination regarding COVID-19 construction protocols on top of existing construction safety practices shall be conducted by Safety Officers to all personnel.

7. For Government construction projects, personal records of all personnel necessary for contact tracing shall be submitted by the concessionaires, contractors, subcontractors, and suppliers to the DPWH IO and shall be resubmitted and updated monthly, or as the need arises.

During Deployment

1. Conduct an inventory of works for the construction sequencing to be followed and undertaken to uphold the required social distancing. Break times shall be conducted in a staggered manner.

2. Employees shall be housed in their respective quarters for the entire duration of the project covered by the ECQ and GCQ. Otherwise, "Prior to Deployment" procedures shall be conducted at every instance of re-entry.

3. Errands to be conducted outside the construction site premises shall be kept to a minimum. Number of personnel running errands shall be limited and shall be properly disinfected and closely monitored for symptoms within fourteen (14) days upon re-entry.

4. Field offices, employees' quarters, and other common areas shall be regularly maintained including the daily disinfection of such facilities.

5. Adequate food, safe/potable drinking water, disinfectants, and hand soaps shall be made available by the concessionaires, contractors, subcontractors, and suppliers to its in – house personnel.

6. Daily monitoring of the pre and post work health conditions of workers shall be undertaken by the concessionaires, contractors, subcontractors, and suppliers including, but not limited to, temperature, health, and exposure monitoring, as preventive measures. Personnel with manifestations or symptoms relative to COVID-19 shall be immediately isolated and quarantined for fourteen (14) days and if necessary, brought to the nearest DOH COVID-19 treatment facility under strict confidentiality and privacy. Proper protocols in accordance with the DTI and DOLE Interim Guidelines on Work Place Prevention and Control of COVID-19 shall likewise be strictly observed. For Government construction projects, a daily health monitoring report to be prepared by the Safety Officer shall be submitted to the DPWH IO.

7. Work activities shall be under daily strict monitoring by the Safety Officer at site to ensure compliance to safety standards and quarantine protocols.

8. For government construction projects, the DPWH Engineers assigned at the site shall ensure strict compliance to DOLE D.O. 13, series of 1998, and implementation of wearing additional Personal Protective Equipment (PPE) required such as, but not limited to, face masks, safety glasses/goggles, face shields, and long sleeve T-shirts, to contain the spread of COVID-19 in the workplace. On the other hand, contractors for essential private construction projects under GCQ shall assign a full time safety officer devoted to ensure compliance with D.O. 13, series of 1998 and implementation of social distancing measures provided herein.

9. For off-site employees' quarters, transport service, duly disinfected before and after use, shall be provided, with social distancing observed.

10. Sharing of construction and office equipment is discouraged. However, if necessary, the shared equipment must be disinfected in between transfers amongst personnel.

11. All material and equipment delivery and disposal shall be conducted by a specific team of personnel on an isolated loading/unloading zone while limiting contact with the delivery/disposal personnel. All material and/or equipment entering the construction site shall be duly disinfected, as possible.

12. Non-essential personnel, visitors, and the general public shall be restricted to enter the construction site, employees' quarters, and field offices. Otherwise, all personnel entering the construction site premises on a temporary basis (e.g. Delivery truck drivers, inspectors, etc.) shall be properly logged and checked for symptoms. Gatherings, Liquors, and/or merry – making are strictly prohibited within the construction site premises.

13. Clustered and staggered deployment of employees within the construction site shall be observed to minimize personnel contact and for easier contact tracing.

14. Proper waste disposal shall be provided for infectious waste such as PPEs and other waste products coming from outside the construction premises.

15. 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.

    - 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.

    - Setting aside part of worker accommodation for precautionary self-quarantine as well as more formal isolation of staff who may be infected.

    - Conducting 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).

    - Providing cleaning staff with adequate cleaning equipment, materials and disinfectant.

    - Reviewing 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.

16. 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.

    - 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.

    - Review existing methods for dealing with medical waste, including systems for storage and disposal.

17. 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.

18. 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.

19. Ensure continuity of supplies and project activities with the following measures:

    - 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.

20. Ensure proper training and communication with workers through the following:

    - 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, 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.

21. 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).

III. CONTINGENCY PLANNING FOR PROJECT SITES

- At each project where there is a workforce, the Project Proponent should request details from the senior manager of that workforce (for example, a contractor's project manager) of the preparations being made on site, and as necessary assist the projects with these preparations.

- The senior manager should be taking the advice of their healthcare team and their health and safety specialists in preparing the site, although the Project Proponent may also need to assist, for example with coordinating responses and/or connecting project sites with national/local healthcare specialists.

- Each project should put in place measures to minimize the chances and contain the spread of the virus as a result of the movement of workers, ensure their sites are prepared for an outbreak, and develop and practice contingency plans so that personnel know what to do if an outbreak occurs and how treatment will be provided.

- These preparation measures should be communicated not only to the workforce but also the local community, to reassure them that the movement of staff is controlled, and to ensure that stigma or discrimination is reduced in the event of an outbreak.

A. Movement of staff

- Movement of staff can increase the risk of transmission of COVID-19 to a work site and the local community. Overseas, international and transient workers should adhere to national requirements and guidelines with respect to COVID-19 when travelling to or from worksites.

- Workers coming from or passing through countries/regions with cases of the virus should not return if displaying symptoms or should self-isolate for 14 days following their return.

- For self-isolation, workers should be provided with a single room that is well-ventilated (i.e., with open windows and an open door), otherwise, adequate space should be provided to maintain a distance of at least 2m and a curtain to separate workers sharing a room. Men and women should not share a room. A dedicated bathroom should be provided for the isolation facilities and there should be separate bathroom facilities for men and women.

- Workers in isolation should limit their movements in areas which are also used by unaffected workers shared areas), and should avoid using these areas when unaffected workers are present. Where workers in isolation need to use shared spaces (such as kitchens/canteens), arrangements should be made for cleaning prior to and after their use of the facilities. The number of staff involved in caring for those in isolation, including providing food and water, should be kept to a minimum and appropriate PPE should be used by those staff.

- At a minimum, isolation areas should be cleaned daily and healthcare professionals should visit workers in the isolation areas daily. Cleaners and healthcare professionals should wear appropriate PPE and ensure good hygiene when visiting workers in isolation. Further information is provided by WHO in Home care for patients with suspected novel coronavirus (COVID-19).

- Visitors should not be allowed until the worker has shown no signs and symptoms for 14 days.

B. Preparing for an Outbreak

- Medical staff at the facilities should be trained and be kept up to date on WHO advice (https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance) and recommendations on the specifics of COVID-19. They should take stock of the equipment and medicines that are present on site and ensure that there are good supplies of any necessary treatments.

- Ensure medical facilities are stocked with adequate supplies of medical PPE, as a minimum:
    - Gowns, aprons
    - Medical masks and some respirators (N95 or FFP2)
    - Gloves
    - Eye protection (goggles or face screens)

- Cleaners also need to be provided with PPE and disinfectant. Minimum PPE to be used when cleaning areas that have been or suspected to have been contaminated with COVID-19 is:
    - Gowns, aprons
    - Medical masks
    - Gloves
    - Eye protection (goggles or face screens)
    - Boots or closed work shoes

- Cleaners should be trained in how to safely put on and use PPE by medical staff, in necessary hygiene (including hand washing) prior to, during and post cleaning duties, and in waste control (including for used PPE and cleaning materials).

- The medical staff/management should run awareness campaigns, training and arrange for appropriate posters, signs and advisory notices to be posted on site to advise workers on how to minimize the spread of the disease, including:
    - to self-isolate if they feel ill or think they may have had contact with the virus, and to alert medical staff;
    - to regularly wash hands thoroughly with soap and water – many times per day;
    - how to avoid disease spread when coughing/sneezing (cough sneeze in crook of elbow or in a tissue that is immediately thrown away), and not to spit;
    - to keep at least 2m or more away from colleagues;

- Hand washing stations should be set up at key places throughout site, including at entrances/exits to work areas, wherever there is a toilet, canteen/food and drinking water, or sleeping accommodation, at waste stations, at stores and at communal facilities. Each should have a supply of clean water, liquid soap and paper towels (for hand drying), with a waste bin (for used paper towels) that is regularly emptied and taken to an approved waste facility (not just dumped).

- Where wash stations cannot be provided (for example at remote locations), alcohol-based hand rub should be provided.

- Enhanced cleaning arrangements should be put in place, to include regular and deep cleaning using disinfectant of catering facilities/canteens/food/drink facilities, latrines/toilets/showers, communal areas, including door handles, floors and all surfaces that are touched regularly

(ensure cleaning staff have adequate PPE when cleaning consultation rooms and facilities used to treat infected patients). Worker accommodation that meets or exceeds IFC/EBRD worker accommodation requirements (e.g. in terms of floor type, proximity/no of workers, no 'hot bedding', drinking water, washing, bathroom facilities etc.) will be in good state for keeping clean and hygienic, and for cleaning to minimize spread of infection.

- Working methods should be reviewed and changed as necessary to reduce use of PPE, in case supplies of PPE become scarce or hard to obtain. For example, water sprinkling systems at crushers and stockpiles should be in good working order, trucks covered, water suppression on site increased and speed limits on haul roads lowered to reduce the need for respiratory (N95) dust masks.

C. Contingency Planning for an Outbreak

- The contingency plan to be developed at each site should set out what procedures will be put in place in the event of COVID-19 reaching the site. The contingency plan should be developed in consultation with national and local healthcare facilities, to ensure that arrangements are in place for the effective containment, care and treatment of workers who have contracted COVID-19. The contingency plan should also consider the response if a significant number of the workforce become ill, when it is likely that access to and from a site will be restricted to avoid spread.

- Contingencies should be developed and communicated to the workforce for:
    - Isolation and testing procedures for workers (and those they have been in contact with) that display symptoms;
    - Care and treatment of workers, including where and how this will be provided;
    - Getting adequate supplies of water, food, medical supplies and cleaning equipment in the event of an outbreak on site, especially should access to the site become restricted or movements of supplies limited.

- Specifically, the plan should set out what will be done if someone may become ill with COVID-19 at a worksite. The plan should:
    - Set out arrangements for putting the person in a room or area where they are isolated from others in the workplace, limiting the number of people who have contact with the person and contacting the local health authorities;
    - Consider how to identify persons who may be at risk (e.g. due to a pre-existing condition such as diabetes, heart and lung disease, or as a result of older age), and support them, without inviting stigma and discrimination into your workplace; and
    - Consider contingency and business continuity arrangements if there is an outbreak in a neighboring communities.

- Contingency plans should consider arrangements for the storage and disposal arrangements for medical waste, which may increase in volume and which can remain infectious for several days (depending upon the material). The support that site medical staff may need, as well as arrangements for transporting (without risk of cross infection) sick workers to intensive care facilities or into the care of national healthcare facilities should be discussed and agreed.

- Contingency plans should also consider how to maintain worker and community safety on site should work be suspended or illness affect significant numbers of the workforce at any point.

- It is important that worksite safety measures are reviewed by a safety specialist and implemented prior to work areas being suspended.

- In drawing up contingency plans, it is recommended that projects communicate with other projects/workforces in the area, to coordinate their responses and share knowledge. It is important that local healthcare providers are part of this co-ordination, to minimize the changes of the local providers being overwhelmed in the event of an outbreak and unable to serve the community.

D. Communicating the plans

- In order to reduce the risk of stigma or discrimination, and to ensure that individuals roles and responsibilities are clear, the preparation measures and contingency plans should be communicated widely. Workers, sub-contractors, suppliers, adjacent communities, nearby projects/workforces, and local healthcare authorities should all be made aware of the preparations that have been made.

- When communicating to the workforce, their roles and responsibilities should be outlined clearly, and the importance for their colleagues, the local communities and their families that the workers follow the plans should be stressed. Workers may need to be reassured that they there will be no retaliation or discrimination if they self-isolate as a result of feeling ill, and also with respect to the compensation or insurance arrangements that are in place.

- "A guide to preventing and addressing social stigma" provides further guidance on preventing social stigma as a result of COVID-19.

ANNEX I

DAILY ACTIVITY LOGBOOK / CONSTRUCTION LOGBOOK

Annex I: Sample Template of Daily Construction Logbook

Daily Construction Logbook

Project:	Retrofitting of ABC Elementary School		
Location:	San Andres, Manila		
Date:	January 4, 2021		
Weather:	AM – Fair PM – Fair		
Manpower:	1 – Project Manager 1 – Project Engineer 1 – General Foreman 1-Safety officer/PCO	4 – Carpenter 2- Steelman 4-Mason 2-Electrician	1-Plumber 1-Timekeeper
Equipment:	1-bar bending machine 1-bar cutter	1-grouting equipment 1-pumpcrete	
Construction activities:	1. Installation of formworks for roof deck and beam 2. Installation of rebars for roof deck and beams 3. Concrete pouring for roof deck slab and beams, columns A-B 4. Chipping of existing floor and wall tiles at ground floor 5. Installation of electrical conduits at room 1 6. Installation of sanitary/plumbing conduits at ground floor 7. Hauling of waste materials for disposal		
Environmental and social issues:	1. Noise from chipping; Chipping schedule was moved to 3:00PM – 7:00PM to avoid disturbance of classes at 2nd floor 2. Wastes from chipping were placed in bins. A total of 2 drums (55-gallon capacity each) was filled and hauled offsite. 3. Noise from pumpcrete operation; Concrete pouring for roof deck slab was conducted from 4:00PM – 8:00PM.		
Complaints Received:	None		
Remarks:			
Visitors:	1. 2.		
Prepared by:	 Project Engineer		
Noted by:	 Project Manager		

ANNEX J

ENVIRONMENTAL AND SOCIAL SAFEGUARD SITE INSTRUCTION FORM AND INSPECTION CHECKLIST

Annex J: Template of Environment and Social Safeguard Site Instruction and Inspection Checklist

Site Instruction No. __

Name of Project: _____
Location: _____
Date: _____

To:

(Name and Address of Contractor)
_____
_____
_____
_____

Please be informed that during the site inspection the following were observed:

1. _____
2. _____
3. _____
4. _____

The above-mentioned works are not in compliance with the ESMP/ECOP, specifically, _____
_____
_____
_____.

In this regard, you are hereby instructed to _____
_____
_____
_____
_____
(state actions to be performed by the contractor as remedial measure/s and the target schedule for completion of action)

For your compliance.

_____
Project Engineer/DPWH

Noted by:

_____
District Engineer/Regional Director

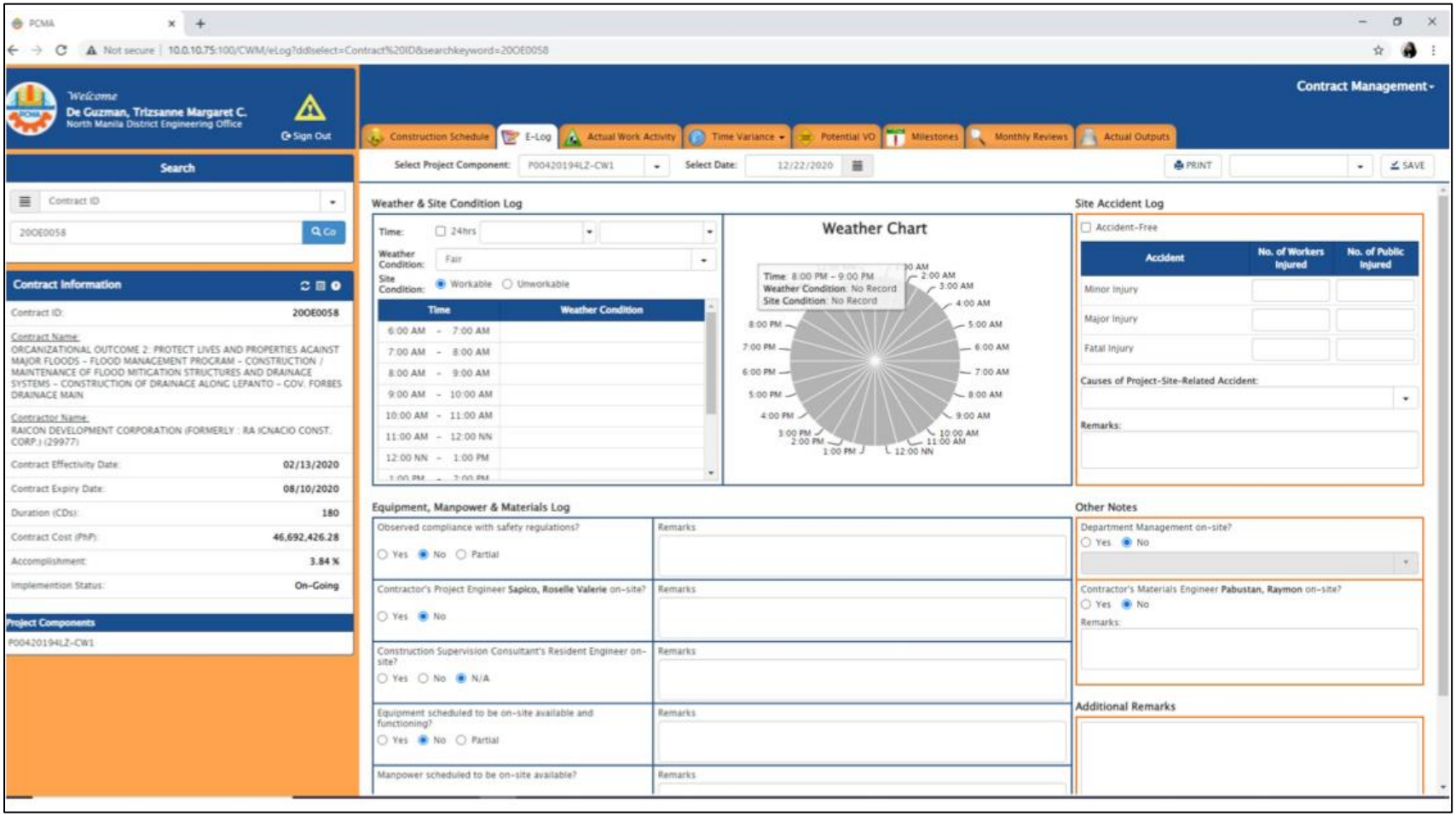
Inspection Checklist on Environment and Social Safeguard

	Acceptable? Yes/No	Remarks
1. Housekeeping		
☐ Solid waste segregation bins (biodegradable, non-biodegradable, recyclables, residual wastes, construction debris)		
☐ Waste bins removed regularly		
☐ Drainage system kept clear		
☐ Toilets are clean		
☐ Clean and potable water available for workers		
☐ Passageways are clean		
☐ Materials are properly stored at site		
☐ Welding gas containers are organized		
☐ Billboard/sign is posted at the site		
☐ Materials delivery vehicles are parked properly		
2. Hazardous waste management:		
☐ Hazardous waste generator registration secured from DENR		
☐ Asbestos material management system (if applicable)		
☐ Separate hazardous waste bins/containers		
☐ Hazardous waste manifest available onsite		
3. Pollution Control Officer (PCO) onsite		
4. Health and Safety		
☐ Safety officer is onsite		
☐ Workers wearing proper PPEs		
☐ First-aid equipment is in-place		
☐ Workers comply with the COVID-19 control instructions		
☐ Working area is barricaded		
☐ Working area is well-lighted		
☐ Safety warning signs are available		
☐ Scaffoldings and braces firmly erected		
☐ Safety net installed (for works on outer surface of building)		
☐ Fire extinguishers available		
Identify any inconveniences:		
Identify any site accidents and safety incidents:		
5. Air pollution control		
☐ Area where adhesives are being applied or where welding activities are ongoing is well-ventilated		
☐ Dust control measures are effective		
6. Noise and vibration control		
☐ Noise and vibration managed		

	Acceptable? Yes/No	Remarks
7. Emergency response		
☐ Fire extinguishers available onsite		
☐ Spill control and management instruction available onsite		
☐ Workers are aware of emergency response procedures		
10. Community complaints Identify any community complaints received including issues from the school/health facility end-user about the construction activities:		
12. Chance Find (as applicable) Are there any chance find of artifact?		
13. Condition of Temporary Relocation Site of School/Health Facility		
☐ Are temporary classrooms convenient and safe?		
☐ Is the temporary health facility operating well?		
Identify issues from end-user about the temporary relocation sites:		
14. Post-Construction		
☐ Work area cleaned up		
☐ There are no materials and wastes left onsite		
☐ Disturbed areas restored properly		

ANNEX K

DPWH PROJECT CONTRACT MANAGEMENT APPLICATION (PCMA) ONLINE MONITORING SYSTEM


PCMA
Not secure | 10.0.10.75:100/CWM/eLog?ddlselect=Contract%20ID&searchkeyword=20OE0058
Welcome
De Guzman, Trizsanne Margaret C.
North Manila District Engineering Office
Sign Out
Contract Management
Construction Schedule
E-Log
Actual Work Activity
Time Variance
Potential VO
Milestones
Monthly Reviews
Actual Outputs
Search
Contract ID
20OE0058
Co
Contract Information
Contract ID: 20OE0058
Contract Name:
ORGANIZATIONAL OUTCOME 2: PROTECT LIVES AND PROPERTIES AGAINST MAJOR FLOODS – FLOOD MANAGEMENT PROGRAM – CONSTRUCTION / MAINTENANCE OF FLOOD MITIGATION STRUCTURES AND DRAINAGE SYSTEMS – CONSTRUCTION OF DRAINAGE ALONG LEPANTO – GOV. FORBES DRAINAGE MAIN
Contractor Name:
RAICON DEVELOPMENT CORPORATION (FORMERLY : RA ICNACIO CONST. CORP.) (29977)
Contract Effectivity Date: 02/13/2020
Contract Expiry Date: 08/10/2020
Duration (CDs): 180
Contract Cost (PhP): 46,692,426.28
Accomplishment: 3.84 %
Implemention Status: On-Going
Project Components
P00420194LZ-CW1
Select Project Component: P00420194LZ-CW1
Select Date: 12/22/2020
PRINT
SAVE
Weather & Site Condition Log
Time: 24hrs
Weather Condition: Fair
Site Condition: Workable Unworkable
Time
Weather Condition
6:00 AM - 7:00 AM
7:00 AM - 8:00 AM
8:00 AM - 9:00 AM
9:00 AM - 10:00 AM
10:00 AM - 11:00 AM
11:00 AM - 12:00 NN
12:00 NN - 1:00 PM
Weather Chart
Time: 8:00 PM - 9:00 PM
Weather Condition: No Record
Site Condition: No Record
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 NN
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
Site Accident Log
Accident-Free
Accident
No. of Workers Injured
No. of Public Injured
Minor Injury
Major Injury
Fatal Injury
Causes of Project-Site-Related Accident:
Remarks:
Equipment, Manpower & Materials Log
Observed compliance with safety regulations?
Yes No Partial
Remarks
Contractor's Project Engineer Sapico, Roselle Valerie on-site?
Yes No
Remarks
Construction Supervision Consultant's Resident Engineer on-site?
Yes No N/A
Remarks
Equipment scheduled to be on-site available and functioning?
Yes No Partial
Remarks
Manpower scheduled to be on-site available?
Remarks
Other Notes
Department Management on-site?
Yes No
Contractor's Materials Engineer Pabustan, Raymon on-site?
Yes No
Remarks:
Additional Remarks