



Baseline Risk Assessment:

**BASELINE RISK ASSESSMENT FOR THE
NDPW INFRASTRUCTURE PROJECTS IN
VARIOUS PROVINCE ACROSS THE COUNTRY**

Risk Assessment N^o
COEGA-SBU-BRA-058-24

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DOCUMENT INFORMATION SHEET

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Prepared for : *Bidders*

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SIGNING OF THE ORIGINAL DOCUMENT

We, the undersigned, accept this document as a stable work product to be placed under formal change control as described by the Procedure for Control of Documented Information.

ORIGINAL	Prepared by	Reviewed by	Approved by
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CLIENT: NATIONAL DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE (NDPWI)

PROJECT: NDPW INFRASTRUCTURE PROJECTS IN VARIOUS PROVINCES ACROSS THE COUNTRY

IMPLEMENTING AGENT (IA): COEGA DEVELOPMENT CORPORATION

CLIENT CONSTRUCTION BASELINE RISK ASSESSMENT

The intended scope of works is entailed in the RFP document, mainly focusing on the intended construction work of infrastructure in various Provinces across the Country. The works order entails of construction, repairs, maintenance, refurbishments, additions, upgrades, renovations of infrastructure across the provinces i.e. **EC, FS, NC, NW, WP, GP, MP**. The scope will include the following activities but not limited to –

Site Area

- Site Establishment inclusive of separating construction area with the operations of the activities
- Loading and Offloading
- Control of access to public and staff on site
- Security
- Access to services and protection thereof
- Decanting

Excavation Works

- Protection of species i.e. flora, fauna and heritage resources
- Site clearance
- Digging of trenches
- Backfilling of trenches

Building Works

- Demolition of some existing structures
- Brick and plastering work
- Glazing
- Joinery
- Working on heights
- Electrical installation
- Mechanical installation
- Handling of Asbestos Roof Sheeting and products (where applicable).

Plants/Equipment

- Use of concrete mixer
- Use of plant equipment
- Use of hand and explosive tools
- Use of lifting equipment
- Use of scaffolding/suspended platforms
- Use of construction vehicles (Inclusive of bakkies)

Environment

- Management and handling of different waste categories
- Use of construction water and portable water
- Working during inclement weather
- All health hazards that can be present during any of the above activities and should include individual dusts, gases, fumes, vapours, noise, extreme temperatures, illumination, windspeed, vibration and ergonomic hazards.
- Landscaping and rehabilitation of disturbed areas

The risk profile is identifying the key areas of risk exposure that the Implementing Agent is highlighting to be considered by the respective Designers and Contractors as part of the construction, design, or operations of the units: The item on the risk profile are linked and a legal framework for compliance to such have been identified in the controls and SHE specification but not limited to:

- Constructing in a green or brown fields area within the Provinces
- Consideration of the environmental impact assessment to be prioritize especially on green fields
- Protection of species to be implemented e.g., flora, fauna etc
- Inclement weather conditions
- Exposure to moving equipment and interaction with other contractors
- Earth works and excavations
- Exposure to hot sources
- Dust, noise, vibration exposure
- Manual handling & related ergonomic stressors
- Working at heights, structural frame erections and roof sheeting
- Lifting and lowering operations
- Grinding and cutting operations
- Electrical and mechanical installation
- Handling and storage of chemicals
- Ventilation limitations
- Illumination limitations
- Heat and Fire exposure

- Stacking and racking exposure
- Waste exposure and handling
- Safe walks and driveways onsite
- Commissioning risk exposures

The risks identified in this assessment relates to the IA's duties, the Designers and Contractors appointed on these projects will be required to develop a detailed baseline risk assessment on the risk exposures experienced on site and relevant to the project scope of works

No	Processes	Potential Hazards	Risk
	Lack of SHE planning and implementation	Not prioritizing SHE requirements at the appropriate stage of the project by internal and external teams	Negative impact on the client, possible cost implication for the identification of changes as required from an SHE compliance requirement. Project delays and legal liability
		Late of CHSP representatives for the project	Legal liability as a result of the risk not being adequately identified, managed and controlled on the project
		No pre-construction SHE management approvals conducted	Legal non-conformances and project delays resulting into cost implication
	Known/unknown services for water, electricity and sewer	Electrocution, sewer/water leaks	Disruptions to the project, shock, burns, death,
	Lack of geotechnical soil information knowledge	Excavations collapse and incorrect design rational used	Injuries, fatal, structural faults and property damages
	Poor management of social -economic risks	Exposure to unrest, crime on site	Injuries, damages and theft

No	Processes	Potential Hazards	Risk
	Access and transport on and to site	Unsafe transportation, lack of adequate traffic control and road worthiness of vehicles.	Motor vehicle accident and fatalities. Personal injuries of non-construction workers due easy unauthorized access.
	Site camp erection & dismantling	Rigging – off loading- placement of containers and machinery	Falling objects - Sliding objects Cuts and lacerations – crush injuries
	Off-loading equipment, machinery, materials	Manual rigging and crane operations- rigging- movement of equipment	Falling and moving objects or machinery Ergonomic strain, crush, death
	Stacking & Storage	Moving storage or stacks (pipes, bricks)- picking off stacks	Falling objects or machinery- crush injuries
	Bush Clearing	Moving machinery, dust, and noise nuisance, snakes etc	Accidents, dust inhalation and NIHL, bites
	Protected flora and fauna	Illegal hunting of species or removal of red listed, as per the environmental legislations	Environmental non-conformance
	Grubbing and aggregate placement	Mobile plant and truck movement dust	Crush accidents- dust inhalation
	Layer earth works	Transportation, traffic control	Motor vehicle accident and fatalities
		Use of compaction plant	Crush injuries- noise - vibration
	Dust exposure	Construction activities generating dust	Respiratory irritation- silica induced illness, poor visibility on site

No	Processes	Potential Hazards	Risk
	Noise exposure	Construction activities generating noise	Noise induce hearing loss
	Whole Body and hand vibration	Mobile plant operations, using vibrating electrical or mechanical equipment	Whole body Vibration back and muscular strain
	Exposure to radioactive source	Exposure and use to radioactive source	Acute radiation
	Excavation works.	Working inside unsafe excavations, no barricading to prevent employees from falling into excavation, signage displayed – lack of warning indicator	Falling into excavation, deaths, serious injuries. Excavation collapse
	Pipe laying and road works	Unsafe lifting and lowering into excavations, mobile plant operations, dust, open excavations	Falling loads, falling into excavations, dust inhalation
	Waste management	Waste accumulation, risk of fire, pollution, unauthorized dumping within the districts	Construction rubble polluting the environment, illegal dumping
	Plant repair and maintenance of plant and machinery	Mechanical risks: mobile parts, gravity energy, hydraulic or coil energy, nip points	Severe to fatal injuries
	Exposure to elements and environment	Sun, wind, temperature, emissions	Skin cancer, heat exhaustion, lung cancer etc
	Temporary Flammable Stores	Inadequate temporary flammable store,	Fire risk resulting into property damage and injury to people

No	Processes	Potential Hazards	Risk
	Hauling of vegetation and soil material	Unauthorized clearing of vegetations and soil material, illegal dumping without approval by Agent and the CDC.	Pollution into the environment, illegal dumping
	Mobile plant operations	Mobile plant and truck movement	Accidents/Incidents
	Concrete works	Handling cement, concrete, heavy objects	Skin, eye chemical insult, ergonomic strain
	General construction work, brick laying, carpentry etc	Hand tools- small portable electrical tools- manual handling- sharp articles –electricity	Hand-, eye injuries, crush injuries, noise exposure, dust exposure –ergonomic strain –electrical shock - fire
	Temporary work operations.	Collapse, incorrect temporary works erections Wind affecting the temporary work structures	Serious injuries- multiple persons- fatality
	Construction in operation	Hazardous activities and construction vehicle exposures, open trenches	Injuries to members of the public or community and users
	Structural steel erection	Ergonomic hazards Collapse Wind risk during erection affecting the material handling & temporary work structures Fall risks, drop risks	Strains Serious injuries- multiple persons- death
	Installation of Roofing, Ceiling	Ergonomic hazards Collapse of structure	Strains Serious injuries- multiple persons- death

No	Processes	Potential Hazards	Risk
		Wind risk affecting the material handling of roof- and cladding sheets Fall risks, drop risks	
	Public Health and Safety, constructing at an operational area	Construction to be separated from the members of the public, construction material falling from heights, obstructing path and walk ways, unsafe site conditions	Scratches, fractures, skin, eye, respiratory impact, falls,
	Working at heights, placement of windows and air vents	Ergonomic hazards Collapse Wind risk affecting material handling of roof- and cladding sheets	Strains Serious injuries- multiple persons- fatality
	Electrical work.	Unsafe electrical exposure	Electrocution, Fatality, damage to property due to fire
	Mechanical works	Unsafe mechanical exposure	Entanglement, serious injuries
	Use of ladder	Collapsing –fall -drop	Severe injury- fatality
	Use of chemical substances	Cement-dust, diesel, Paint	HCS-specific illness

No	Processes	Potential Hazards	Risk
	Demolition work. If required due to inadequate building quality	Exposure to unknown hazardous sources, structural collapse	Severe injury and fatality
	Community unrest	Unforeseen unrest from community members	Property damage, project delays
	Road usage and cleaning	Unsafe constructive vehicle operations,	Injuries to pedestrians and members of the public.
	Laydown areas	Delivery of construction material and equipment to site, incorrect storage of equipment's and material	Obstruction for operations and damaged to existing infrastructure
	Painting	Usage of paint and painting at heights	Fume inhalation, falling from heights

ANNEXURE B

Acknowledgement:

I, _____ representing _____ Principal Contractor have satisfied myself with the content of the Baseline Risk Assessment (BRA) and shall ensure that the personnel and other people visiting site comply with all relevant obligations in respect thereof.

Signature of Principal Contractor

Date

Signature of Agent

Date