

**Bhume Rural Municipality**  
**Office of the Rural Municipal Executive**  
**Khawangbagar, Rukum (East)**

**Rukum (East) District**

**Terms of Reference (TOR)**  
**For**  
**Hiring of Consultants for**  
**Preparation of Detail Project Report of**  
**Rural Municipality Office Building**

**April 2019**

**1. Background**

The Government of Nepal has recently declared 460 new Rural municipalities as per the proposal of Ministry of Federal Affairs and Local Development (MofFALD). MofFALD has taken Progressive move to convert urban and semi-urban two or more prevalent Village development Communities to form municipalities. In this pretext, MofFALD has provisioned allocation will continue for the recently declared 293 municipalities.

MofFALD has provisioned NRs. 10 million has to construct municipality office building in this fiscal year since the municipality formed; it has for ample amount of task to be performed apart from human resource management. In these pretext municipality intends to hire domestic engineering consulting firm for preparation of detail project report of Rural municipality building that includes. But not limited to, survey design detail drawing (architectural, structural, electrical, sanitation). Cost estimate and contract document and according to this Terms of Reference (ToR) is prepared.

**2. Objectives**

Objectives of hiring consulting service is to prepare architectural design, drawing, and detail cost estimate, specification and bid documents of Bhume Rural municipality office building.

**3. Scope of the Work**

The Consulting service is required for the preparation of architectural design, structural design, Drawings, detail cost estimate. Specification and bid document of Bhume Rural municipality office building, with multistory and basement parking facilities. The new building should be safe, reliable, cost effective, energy saving (aiming zero energy loss). Well ventilated with adequate light, environment friendly, and

systematic resistant, differently able people friendly, well-equipped with CCTV and fire lighting, parking, plumbing, drainage, boundary wall and communication facilities. Designs will considering Vastu-Sastra.

### **3.1. Desk Study**

A Desk Study should be carried out, collecting all data, maps (cadastral maps, GIS map, Google map) and other information relevant to building design for planning of further field survey and investigation works as well as detailed design and checked the actual area of the plot and verify with the land revenue office record.

### **3.2. Detailed Engineering Study and Survey**

#### **3.2.1. Technical feasibility study**

It should include reviewing the available data, collecting, reviewing and analysis field data including topographic survey, nature and structure of surface soil and subsurface soil including groundwater and other information as required for the study and conducting analysis to decide upon the technical feasibility of the building. The consultant shall assess the floor area requirements in consultation with Rural Municipality. A cost comparison of different type of building shall be made and discussed before proceeding to building site soil investigation.

#### **3.2.2. Master Plan and Conceptual, Designing**

The consultant shall prepare and submit conceptual master plan/ architectural design/ outline proposal as well as preliminary cost estimate of the project for approval by Rural Municipality. The consultant shall follow design of the building as per the rules and regulations of one and / or any prior existed Rural municipality within the district.

#### **3.2.3. Building layout Selection**

The most suitable Layout for the Building based on the access to the road. Adequacy of light as well as other building on the surrounding location shall be selected. The Building layout should also be guided by climatic factors and environmental considerations such as solar, rain, wind, temperature, noise, light, energy, efficiency, ventilation etc, and other existing and/ or planned facilities in the area. The selected layout should be clearly indicated in the map and should be as per the Municipality Norms, Rule and Regulation. All the characteristic features of the chosen building site shall be given in order to facilitate easy reference while designing the building.

#### **3.2.4. Topographical Survey**

The topographical survey of the Bhume Rural Municipality area of land of the proposed building site shall be carried out. The topographical map should show the following.

- Contours at 0.1 m intervals
- Government and / or Public Establishments
- Traverse lines, benchmarks reference lines and / or points with respect to which the present topographical map is prepared.
- Other information relevant to design, construction and / or maintenance of the building.

The survey should also produce a map showing other important features and facilities in the surrounding area including roads, buildings, sewer lines, electric line, trees, temple/ cultural sites, historic buildings, flooding areas etc.

#### **3.2.5. Seismological Study**

The consultant shall collect and refer to the available seismic data/ records of the area. Seismic Forces. According to the Indian standard criteria for Earthquake Resistant Design of Structure. Nepal National Building Code (NBC-1994). Rural Municipality Norms, Rule and Regulation may be followed.

#### **3.2.6. Consideration on Environment protection**

Environment Consideration should start early-on Layout plan of the building should be guided by environmental and climatic factors, and alternative layouts will be compared on environmental and climatic ground. The design of the building should incorporate environmental concepts such as avoiding/ minimizing adverse environmental impacts, recycling or reusing and proper handling of wastes. Making

optimal use of natural systems (such as solar energy and natural lights), health and safety as well as accident/ emergency management measures. Contributing, to positive environment aspects (such as recharging groundwater) etc. The proposed layout and designs should be screened for any environmental risks. The consultant shall carry out environment assessment to predict damages of the buildings construction to the environment and attempt first to avoid and then to minimize the risks or damage through appropriate layout and design features. The unavoidable risks should be mitigated through appropriate mitigation measures (technology, type of structures, management etc.). The consultant will suggest appropriate measures in the design for protection of surrounding environment.

### 3.3. Soil Investigation

#### 3.3.1. Scope of Investigation

Scope of work shall be as follows

- Standard penetration tests (for Dynamics Cone penetration: if required) at 1.5 m interval.
- Collection of disturbed and undisturbed samples at regular interval or as and when required.
- Laboratory test and analysis of data to determine engineering properties.
- Technical report of the investigation work.

The depth of soil exploration from ground level shall be as follows:

S.No.	Type of Soil	Number of Bore Holes	Governing Depth	Remarks
1	Silty, Sandy, Clayey soil, or Granular Soil (Gravels Boulders)	At least three	10-15m	

The above mentioned depths and number are indicative. The consultant shall decide the actual required depth of soil investigation according to the field condition and design parameters. The investigation will involve excavating boreholes with sampling and testing. Ground conditions are to be investigated at the site. The consultant shall provide services of experienced technical manpower for the work and shall station field staff at the site. All equipment tools proposed for the works shall be made available by the consultant..

#### 3.3.2. Location of Boreholes

The consultant has to finalize discussing with Rural municipality a schematic layout plan showing approximate field testing points. Precise location and method of investigation shall be confirmed accordingly. During investigation if addition to the boreholes required such holes shall also be tested. Boreholes shall backfilled.

#### 3.3.3. Standard Procedures

The consultant shall carry out investigation in accordance with relevant standard code of practices. For the purpose relevant IS code, British standard of ASTM shall be adopted. The tests and field work and analysis shall be according to those codes.

#### 3.3.4. Bore-holes, Field Tests and Laboratory Tests

The properties of the underlying soil are determined by field and laboratory tests of the soil samples obtained from the bore holes drilled to a depth of 10m to 15m. As far as possible the locations of the boreholes shall be under foundation. The method of boring should be such as that:

- Soil disturbance at the boom of bore holes is minimum.
- Water level difference inside and outside of the boreholes is not created.

The method of boring should be rotary/ percussion drilling. The method adopted shall not cause nuisance to the neighborhood. The method adopted for boring shall be according to IS 1892-1979. Boring of pits at site should be done in presence of Municipality assigned technician.

Ground water table shall be observed and noted every morning and evening during the investigations period.

The anticipated borehole depth below ground level should be as specified (10-15m in case of soft and gravel mixed soil). Depending upon the strata the final depths shall be decided by the Rural Municipality assigned technician for each borehole. The boring size shall not be less than 100 mm diameter. The hole shall be logged site by a competent engineer from the consultant.

### **3.3.5. Method of Sampling in Boreholes**

Undisturbed samples shall be taken with tubes of diameter not less than 100 mm having an area ratio of less than 10%. Undisturbed soil samples shall be collected from regular interval in case of Uniform soil formation. Additional undisturbed sample shall be collected at every change of formation. Collected sample shall be sealed and transported carefully. Disturbed samples may be taken by any method approved by the engineer and must be stored in air tight double plastic bags. Collection of sample shall be according to IS: 1892-1979.

### **3.3.6. Standard Penetration Test**

The equipment and manner in which the standard penetration tests are conducted shall be according to IS: 2131-1963 and subject to the approval of the Rural Municipality engineer. SPT shall be conducted at an interval of 1.5m of depth, starting the first one at 3 m depth. Soil obtained in the split barrel shall be collected as representative disturbed sample. Alternatively, in case of Gravelly soil Dynamic cone penetration Test (DCPT) may be conducted. The method adopted shall be according to IS: 4968-1976.

### **3.3.7. Laboratory investigation**

Laboratory investigation on disturbed and undisturbed samples shall include but not limited to the following samples. The tests shall be according to the applicability to the type of sample.

- Grain Size Distribution (Sieve analysis)
- Hydrometer Analysis Atterberg's Limit
- Natural Moisture Content
- Consistency limits
- Specific-Gravity
- Shear Strength Test
- Unit Weight
- Unconfined compression Test
- Conducting SPT at 1.5 m interval using auto trip hammer system including collection of Samples, packing, scaling etc.
- Retrieving undisturbed samples for consolidation and shear strength tests for per BH

The laboratory test shall be performed in the presence of engineer from the Rural Municipality. Consultancy firm should have its own soil laboratory or should have authorization letter from qualified labs. The laboratory test methods shall be according to IS: 2720 wherever applicable.

Other standard testing procedures such as BS and ASTM could also be allowed. If required by the field condition, the Consultant shall conduct other types of tests. Similarly, the frequency of the above test can be increased if required. The consultant shall bear the cost of all the field and laboratory tests.

### **3.3.8. Analysis of Data**

The field and lab data shall be analyzed by a competent geo-technical Engineering geologist. The borehole logs shall be logged and verified. The samples shall be properly classified according to unified soil classification system. The engineering parameters shall be established. Shear strength and settlement parameters shall be assessed. Safe bearing capacity and net bearing capacity shall be calculated according to IS: 6403-1981 and IS: 8009-1976. Allowable bearing capacity at the proposed site

and the variation with in the area shall be proposed. Allowable bearing capacity for different types of foundation for different depths shall be recommended based on National Building code of India (1983) or other suitable codes.

### **3.3.9. Soil exploration works to be certified**

The Rural municipality if required may ask the consultant to submit the soil/ rock samples obtained from the drilling work in core boxes and / or a bore-log certified by the consultant.

### **3.3.10. Analysis of Data, Conclusion and Recommendation of Design Parameters**

Based upon the above mentioned studies and investigations the consultant shall make best use of their technical know-how and professional skill to arrive at and recommend the most cost effective design parameters. The consultant shall discuss in detail at least three different options and shall recommend the most appropriate option. The consultant is required to design the building keeping in view of the introduction materials and technology into building construction industry. It is highly recommended to use high grade concrete in their design. Ordinary RCC structure shall be accepted if there is sufficient ground in favor of them as compared with the high grade concrete.

### **3.4. Miscellaneous**

If not covered by aforesaid. The consultants shall perform other studies, explorations tests, surveys, calculations, etc. required to produce full and complete set of working drawings.

Specifications, bills of quantities, requirement of materials and complete cost estimates for the building including related works based upon which construction activities can be started to complete without further study and/or reference to them. Deliverable shall include survey Report covering topographical, seismological, and soil investigation report.

### **3.5. Detailed Design and Quantity/Cost Estimates**

Based on the collected information and results of the discussion mentioned above the consultants shall design the building, following the standard codes of practice, norms and guidelines. The relevant codes of IS for the design of Nepal National Building Code (NBC-1994), preexisted Municipality Norms of the district. Rule and Regulation shall be followed. The list of all reference literature and materials shall be provided on the report.

The consultant shall initially complete structural analysis and prepare final structural design drawings showing the structural system used for RCC. Wood, Steel etc. as necessary together with reinforcement details, construction details sizes etc. The structural drawings shall be accompanied by a compiled structural design report giving verifiable calculations for all structural members. The consultant shall prepare Specifications for Structural Design Components.

The consultants shall produce details and all structural drawing as per pre Municipality Norms. Rule and Regulation and preparation of all documents need for approval.

The consultants shall produce detailed quantity estimate of the building and its accessories including provisions of demolition of existing office buildings. The consultants shall collect information on sources of materials and their lead distances and prepare rate schedules and cost estimates based on the standard norms and prevailing district rates.

### **3.6. Preparation of the Document**

The Consultants shall prepare detailed design and drawings for:

- Architectural
- Structural
- Mechanical
- Electrical and Allied system
- Communication and Computer Networking
- Fire Alarm and Firefighting system

- CCTV system
- AC system
- Water Supply and Sanitation (Sewerage, Drainage etc.)
- Interior detail
- Site Development Works

Drawings should include Structural / Working Drawings. Deliverable shall include,

- Detailed Design. Drawings.
- Drawings for approval of Municipality
- Detailed Unit Rate Analysis, Cost Estimate, work Specifications.
- Complete set of Bidding Documents

### 3.7. List of the Drawing Requirements

This list is subject to revisions by the consultant after giving prior notice therefore any further details, Drawings, Design, Documents, and Specification etc. that are deemed necessary for

1. Plan ; scale 1:100/1:50/1:25	<ul style="list-style-type: none"> <li>a) Ground floor plan with all the necessary details.</li> <li>b) Detail drawing showing the all necessary details.</li> <li>c) Ramp showing all the necessary details.</li> <li>d) Column layout plan</li> <li>e) Detail drawing of the foundation ( Isolated, Combined/Raft/Pile if necessary)</li> <li>f) Reflected ceiling plans where applicable along with materials Specification and fixing details.</li> <li>g) Schedule of finishes and specification for different areas and surfaces.</li> </ul>
2. The Building Sections; Scale 1:100/1:50/1:25	All relevant longitudinal and cross-section indicating;
	<ul style="list-style-type: none"> <li>a) All major changes of levels and building heights. Clearly defining the relationship of the various building elements with each other, in terms of vertical heights and distance to be drawn.</li> <li>b) Heights of basic elements and levels such as plinths sills, lintels, ceilings, floors, cornices eaves, truss bottom etc.</li> <li>c) Slopes of roof and floors applicable to be defined.</li> <li>d) All the materials to be specified.</li> </ul>
3.The building Elevations scale 1:100	Basic elevations indicating.
	<ul style="list-style-type: none"> <li>a) Elevation features of doors, Windows columns, Brackets, railings, roof profiles etc. and showing all external faces of the buildings to be drawn.</li> <li>b) Details of the elevations and corresponding external wall sections. Defining the arrangement of various elements whether in different of the same vertical plans etc. along with the buildings materials used.</li> </ul>
4.Construction Details: scale: 1:20/1:10/1:5	Construction details for all building features indicating.
	<ul style="list-style-type: none"> <li>a) Flooring, Steps and step guards, sills, railing, lintels, Columns, beams, brackets, cornices, ceilings, roofing, plinth protection etc. along with the material to be used.</li> <li>b) Partition walls, paneling, skirting, false ceilings, shelving, counters cupboards and other miscellaneous built in furniture along with the materials specifications and hardware to be used.</li> </ul>

	c) Staircase treads risers and their relation to floor finishes, hand railings and fixing details along with materials and specification used.
5.Doors/ Windows: Scale: 1:20/1:10/1:5	The followings shall be indicated together with the schedule of finishes.
	a) Details elevations clearly showing all traditional features and elements to be incorporated and prepared.
	b) Details section explaining the opening, frame, threshold, shutter sizes etc. to be prepared, along with a drawn description of the traditional detailing aspects and materials to be used.
	c) Details for grills and security bars together with the material used, specifications fixing details.
	d) Schedules and specification for hardware.
6.Toilets Details : Scale 1:20	The following shall be indicated
	a) Detail plans and sectional elevations clearly explaining the number, size location and types of all fixtures and fittings i.e. water closets, urinals, wash basins, tapes, gersers, towel rails, soap trays, mirrors, floor traps, etc. along with arrangement of tile facing, materials specifications and catalogue reference where applicable.
	b) Layout plans for water supply and drainage lines required for each floor including specification of sizes, necessary fitting and materials.
7.Pantry Details: Scale 1:20	The following shall indicated:
	a) Details plans sectional elevations clearly explaining the location of carious fixtures ie. Sinks and drain boards exhaust, fans, etc. along with all materials specifications and catalogue references applicable.
8.Structural Drawings: Scale 1:100/1:50	The followings shall be indicates together with the relevant schedules;
	a) Layout plans with complete center-to-center measurements.
	b) Foundation plan up to plinth level, complete with details for column footing; load bearing walls, partition walls, plinth beams, etc. with sections at various points and supports showings the entire arrangement of reinforcement with full measurements.
	c) Design and details for lintels, beams cornice beams, suspended floors, columns, shear walls water tanks, posts struts, brackets, etc. at all floor levels with complete sections showings the entire arrangement of reinforcement including bar bending schedule for the complete structure together with full measurements.
	d) Design and details for stair cases with plans and sections at all levels showings the whole reinforcement arrangement with all measurement for stairs. Landing, slabs, beams and foundations.
	e) Details of ceilings, sizes of joists, suspenders and fixing details complete with sections showing the structural arrangement and measurements.

	f) Design and details for trusses, purlin, rafters, posts, struts, post plates, etc. complete with sizes, section> and
	g) Design and details of all steel sections with complete measurements, showing the structure arrangement, details of connections, etc.
9.Electrical Layout: Scale 1:50	Proposal for electrification of all floors together with related furniture layout indicating:
	a) Internal electrical layout with respect to location and height of fixture/ fittings such as light points, switches, switch boards, power outlets, exhaust fans, bulk heads, sub distribution boards , main control board, etc
	b) Layout for compound electrifications inside plan along with specification of fittings, poles, brackets, etc, as proposed.
	c) Layout and sections where applicable for cable trenches, cable routes and carthing and its specifications.
	d) Single line diagram in respect of main control board and energy meter, sub distribution boards and load circuits.
10.Services Layouts: scale 1:100	The following information as per the manufacturer's standard and specification shall be incorporated in all relevant drawings where even applicable.
	a) Layout showing the location of security gates and walls with required height clearances, check points, save doors, grills, partition, special reinforcement, security rooms etc.
	b) Location of fire alarm sensors and firefighting equipment together with provision for installation details as per manufacturer's specification.
	c) Layout showing the location of electrical generator and mechanical equipment if necessary .

#### **4.Submission of Reports and presentation of the Works**

##### **4.1. Inception Report**

This report will contain building size, type and layout plan and locations of bore holes, logs with description of samples taken at every change of strata. Preliminary inception report shall be submitted to Rural Municipality in five topics. This should contain master concepts of overall project as well as the time schedule.

##### **4.2. Preliminary Design Report**

This report shall contain the preliminary design concepts and short descriptions relating to the proposed structure and its major components .e.g. Architectural Structural, Water Supply, Sanitation, Electrical, Mechanical and others. It shall include location of proposed if foundations and arrangements of the building components along with comparison/ between the possible alternative types. This report shall be submitted in five copies and the content shall be discussed with municipality before proceeding to the detailed design of the building. The consultant shall present the preliminary design report to the municipality audience. The cost of such presentation shall be borne by the consultants.

##### **4.3. Draft Report**

This draft report shall be in standard format, containing all the required components of the design and be presented in clear and easy to refer formats as per the general design guidance attached.



The complete set of the report should consist of:

- Volume I – Main Report
- Volume II- Drawings (structural/ working)
- Volume III- Design Calculations
- Volume IV- Unit Rate Analysis, Cost estimates, Bill of Quantity, and Special provisions to Standard Specifications, if any.
- Volume V – Standard Bidding Document
- Appendices

This report shall be submitted in five copies. The report shall also include the drawings, quantity and cost estimate of any standard design the is used in the design. A copy of this draft report shall also be submitted to the infrastructure Development Division (IDD/ MoFALD) for its review.

#### **4.4. Presentation of the Draft Report**

The Consultant shall present the design report in specified standard format and defend it to the municipality / MoFALD audience prior to the submission of the final report. They shall review the issue raised during the presentation while finalizing the report and make necessary amendments/ corrections if needed. The date and venue of the presentation shall be determined by mutual agreement between the Municipality and the consultants. The cost of such presentation shall be borne by the consultants.

#### **4.5. Final Report**

Apart from the presentation, the Municipality will verify the content of the report against the Terms of Reference and the checklist. The Municipality may also discuss upon the technical content of the report and may suggest some changes if through necessary. While preparing the final Report the consultant shall consider the comments/ suggestions and make corrections or amendments if required. It doesn't however relieve the consultants or their responsibility over the technical content of the design. The final report shall be submitted in live copies as indicated in the checklist.

#### **4.6. Soft Copy (Electronic Copy) of the Design**

Apart from the bound report the consultants shall submit soft copies (Electronic Copies) of the final report if USB as specified in the checklist.

### **5. Time Schedule**

If not indicated otherwise in the contract documents the consultant shall complete the assigned works as per the following schedule:

- I. Inception report within 2 (Two) weeks from the date of signing of the contract
- II. Preliminary Design Report within 2 (Two) months from the date of signing of the contract
- III. Deft Report within 2.5(Two and Half) months from the date of signing of the contract
- IV. Final Report within 3(Three)months from the date of signing of the contract

### **6. Payment Schedule**

If not indicated otherwise, the payment shall be made as mentioned below:

- 10% after approval of preliminary design, including building plan, architectural drawings and landscaping drawings
- 40% after approval of final design including structural calculations and structural drawings.
- 25% after approval of water supply, sanitary and electrical works.

- 15% after preparation and approved of cost estimates, final BoQs and other contractual documents and incorporation of comment received from IDD/MoFALD.

The deduction of 5% of security deposit shall be made from all payments. The security deposit will be refunded to the consultant after the successful completion of the contract.

### 7. Tentative Staffing Requirements

The consulting services shall be carried out by National consultants. The firm shall have extensive experience in design of multipurpose hall museum and other civil buildings. It is anticipated that the consultant organization will be as set out in Staff Input, although in preparing their proposals the consultants may propose alternative arrangement which in their opinion, will provide required services of an equivalent or better quality. The tentative staffing requirement of the key personnel is as follows:

Description of key staff	Nos.	(Person days)
Team leader/ coordinator	1	75
Civil Engineer	1	60
Structural Engineer	1	45
Senior Architect	1	75
Electrical Engineer	1	30
Water supply/ Sanitary Engineer	1	35
Mechanical Engineer	1	25
Computer Networking and Communication Specialist	1	30

### 8. Qualification, Experience and Responsibilities of Key Staff

Position	Minimum Qualification	Desirable Qualification	General Experience	Desired Experience
Team leader/ coordinator	Graduate in Civil Engineering	Masters in Architecture/Urban Planning	5-Year's experience in planning Design and Supervision of Building.	Experience as a Team Leader in design minimum 5 number of building project funded by Government, Semi Government or by private developer, design cost more than NRs. 1300000.0099
Civil Engineer	B.E in Civil Engineering	Master in Project/Construction works	4-Years Experience in General Civil Engineering construction Works	3 years experience in construction building projects funded by government, semi government or by private developer.

Senior Architect	B.E in Architectural Engineering	Master in Architectural / Urban planning Engineering	5-Years Experience in Architectural Engineering Design of buildings	Experience as an Architect in design of minimum 5 building project funded by Government, Semi Government or by private developer.
Architect	B.E in Architectural Engineering	Master in Architectural / Urban planning Engineering	4-Years Experience in Architectural Design of buildings	Experience as an Architect in design of minimum 3 building project funded by Government, Semi Government or by private developer.
Senior Structural Engineer	B.E in Civil Engineering	Master in Structural Engineering	5-Years Experience in Structural Design of multistoried buildings	Experience as an Structural Engineer in design of minimum 5 building project funded by Government, Semi Government or by private developer.
Structural Engineer	B.E in Civil Engineering	Master in Structural Engineering	4-Years Experience in Structural Design of multistoried buildings	Experience as an Structural Engineer in design of minimum 3 building project funded by Government, Semi Government or by private developer.
Electrical Engineer	B.E in Electrical Engineering	M.E. in Electrical Engineering or equivalent	4-Years Experience in Electrical Design of building works	Experience as an Electrical Engineering in design of minimum 3 building project funded by Government, Semi Government or by private developer.
Computer Networking and communication Specialist	Bachelor in Computer Engineering / Electronic and communication or computer science	Master in Computer Engineering / Electronic and communication or computer Information Technology	4-Years Experience in Computer Networking and communication	Experience as an Computer Engineer in design of minimum 3 building project funded by Government, Semi Government or by private developer.
Water Supply/ Sanitary	Bachelor in Civil Engineering	Master in Water Engineering /Sanitary/ Environmental Engineering	4-Years Experience in Water Supply and Sanitation Work	Experience as an Water Supply/ Sanitary Engineer in design of minimum 3 building project funded by Government, Semi Government or by private developer.
Mechanical Engineer	Bachelor in Mechanical Engineering	Master in Mechanical Engineering	4-Years Experience in General Mechanical Work	Experience as an in designing and Erecting of lift System and Generator system in minimum of 3 multistory

Geologist/Geotechnical Engineer	Bachelor in Geology/Geotechnical Engineering	Master in Geology/Geotechnical Engineering	5-Years Experience in Geological work.	Experience in similar nature of work at least three projects.
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