

1. Invitation to Tender

Tender Name: Drilling of Borehole, Installation of Submersible Pump, and Solar System in Buso Community, Borrong Ward, Demsa LGA, Adamawa State	Tender No: NIG/YOL/TEN24
Location: Adamawa State	Correspondence Language(s): English

Brief Summary Description of Project:

Mercy Corps is a leading global organization powered by the belief that a better world is possible. In disaster, in hardship, in more than 40 countries around the world, we partner to put bold solutions into action — helping people triumph over adversity and build stronger communities from within, now and for the future. Mercy Corps works in fragile and conflict-affected environments. While we recognize that these are difficult places to operate, we believe that transitional environments — countries affected by civil wars, economic and political crisis, or natural disasters — offer tremendous opportunities for positive change. Since the late 1990s, Mercy Corps has managed over 100 peacebuilding projects in over 30 countries and regions, making Mercy Corps a true leader in the field. Mercy Corps currently has 27 active peace and conflict programs in 15 countries. Contributing to the mitigation of conflict over natural resources between farmers and herders in Adamawa state (COMITAS) Mercy Corps aims to capitalize on its trusted relationships with local stakeholders across Nigeria's Middle Belt to continue to empower communities to prevent and respond to violence by strengthening collaboration on natural resource management.

Tender Package Available from: (8th / March / 2022)	Tender Package Pickup Location: Tenders are available to download from: https://www.mcnigeria.com/tenders/
Deadline for Offer Submission: (18th / March / 2022; 5:00pm)	Submit Offers to: For Hard Copy Submission: Proposal Subject: "NIG/YOL/TEN24: The Drilling of Borehole, Installation of Submersible Pump, and Solar System in Buso Community, Borrong Ward, Demsa LGA, Adamawa State" at Mercy Corps Office, 10A, Suntai Road, Karewa extension, Jimeta Yola, Adamawa state.
	For e-submissions email offer to: tenders@mercycorps.org With the email title "NIG/YOL/TEN24: Drilling of Borehole, Installation of Submersible Pump, and Solar System in Buso Community, Borrong Ward, Demsa LGA, Adamawa State"

Mercy Corps reserves the right to accept or reject any late offers

Questions and Answers (Q&A)	



If any, Submit Questions in writing to: qa-ng-tenders@mercycorps.org

Last Day for Questions:

(11th/ March / 2022; 12:00 noon)

Questions will be answered by:

(14th/ March / 2022; 12:00 noon)

Questions will be answered and uploaded to: https://www.mcnigeria.com/tenders

Documentation Checklist		
These documents are contained within this tender package:	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Invitation to Tender General Conditions for Tender Criteria and Submittals Price Offer Sheet Supplier Information Form Scope of Work/Technical Specifications/BoQ Sample Contract

2. General Conditions for Tender

Mercy Corps invites proposals for the goods, services and/or works described and summarized in these documents, and in accordance with procedures, conditions and contract terms presented herein. Mercy Corps reserves the right to vary the quantity of work/materials specified in the Tender Package without any changes in unit price or other terms and conditions and to accept or reject any, all, or part of submitted offers.

2.1 Mercy Corps' Anti-Bribery and Anti-Corruption Statement

Mercy Corps strictly prohibits:

• Any form of bribe or kickback in relation to its activities

This prohibition includes any *request* from any Mercy Corps employee, consultant or agent for anything of value from any company or individual in exchange for the employee, consultant or agents taking or not taking any action related to the award of a contract or the contract once awarded. It also applies to any *offer* from any company or individual to provide anything of value to any Mercy Corps employee, consultant or agent in exchange for that person taking or not taking any action related to the award of the contract or the contract.

• Conflicts of interests in the awarding or management of contracts

If a company is owned by, whether directly or indirectly, in whole or in part, any Mercy Corps employee or any person who is related to a Mercy Corps employee, the company must ensure that it and the employee disclose the relationship as part of or prior to submitting the offer.

• The sharing or obtaining of confidential information

Mercy Corps prohibits its employees from sharing, and any offerors from obtaining, confidential information related to this solicitation, including information regarding Mercy Corps' price



estimates, competing offerors or competing offers, etc. Any information provided to one offeror must be provided to all other offerors.

Collusion between/among offerors

Mercy Corps requires fair and open competition for this solicitation. No two (or more) companies submitting proposals can be owned or controlled by the same individual(s). Companies submitting offers cannot share prices or other offer information or take any other action intended to predetermine which company will win the solicitation and what price will be paid.

Violations of these prohibitions, along with all evidence of such violations, should be reported to: http://mercycorps.org/integrityhotline

Mercy Corps will investigate allegations fully and will take appropriate action. Any company, or individual that participates in any of the above prohibited conduct, will have its actions reported to the appropriate authorities, will be investigated fully, will have its offer rejected and/or contract terminated, and will not be eligible for future contracts with Mercy Corps. Employees participating in such conduct will have his/her employment terminated.

Violations will also be reported to Mercy Corps' donors, who may also choose to investigate and debar or suspend companies and their owners from receiving any contract that is funded in part by the donor, whether the contract is with Mercy Corps or any other entity.

2.2 Tender Basis:

- All offers shall be made in accordance with these instructions, and all documents requested should
 be furnished, including any required (but not limited to) supplier-specific information, technical
 specifications, drawings, bill of quantities, and/or delivery schedule. If any requested document is
 not furnished, a reason should be given for its omission in an exception sheet.
- No respondent should add, omit or change any item, term or condition herein.
- If suppliers have any additional requests and conditions, these shall be stipulated in an exception sheet.
- Each offeror may make one response only.
- Each offer shall be valid for the period of [180 days] from its date of submission.
- All offers should indicate whether they include taxes, compulsory payments, levies and/or duties, including VAT, if applicable.
- Suppliers should ensure that financial offers are devoid of calculation errors. If errors are identified during the evaluation process, the unit price will prevail. If there is ambiguity on the unit price, the Selection Committee may decide to disqualify the offer.
- Any requests for clarifications regarding the project that are not addressed in written documents
 must be presented to Mercy Corps in writing. The answer to any question raised in writing by any
 offeror will be issued to that offeror. In some cases Mercy Corps may choose to issue clarifications
 to all offerors. It is a condition of this tender that no clarification shall be deemed to supersede,
 contradict, add to or detract from the conditions hereof, unless made in writing as an Addendum to
 Tender and signed by Mercy Corps or its designated representative.
- This Tender does not obligate Mercy Corps to execute a contract nor does it commit Mercy Corps to pay any costs incurred in the preparation and submission of proposals. Furthermore, Mercy



Corps reserves the right to reject any and all proposals, if such action is considered to be in the best interest of Mercy Corps.

2.3 Supplier Eligibility

Suppliers may not apply, and will be rejected as ineligible, if they:

- Are not registered companies
- Are bankrupt or in the process of going bankrupt
- Have been convicted of illegal/corrupt activities, and/or unprofessional conduct
- Have been guilty of grave professional misconduct
- Have not fulfilled obligations related to payment of social security and taxes
- Are guilty of serious misinterpretation in supplying information
- Are in violation of the policies outlined in Mercy Corps Anti Bribery or Anti Corruption Statement
- Supplier (or supplier's principals) are on any list of sanctioned parties issued by; or are presently excluded or disqualified from participation in this transaction by: the United States Government or United Nations by the United States Government, the United Kingdom, the European Union, the United Nations, other national governments, or public international organizations.

Additional eligibility criteria, if applicable, are stated in section 3.2 of this tender package.

2.4 Response Documents

Offerors can either utilize the response documents contained in this tender package to submit their offer or they can submit an offer in their own format as long as it contains all the required documents and information specified by this tender.

2.5 Acceptance of Successful Response

Documentation submitted by offerors will be verified by Mercy Corps. The winning offeror will be required to sign a contract for the stated, agreed upon amount.

2.6 Certification Regarding Terrorism

It is Mercy Corps' policy to comply with humanitarian principles and the laws and regulations of the United States, the European Union, the United Nations, the United Kingdom, host nations, and other applicable donors concerning transactions with or support to individuals or entities that have engaged in fraud, waste, abuse, human trafficking, corruption, or terrorist activity. These laws and regulations prohibit Mercy Corps from transacting with or providing support to any individuals or entities that are the subject of government sanctions, donor rules, or laws prohibiting transactions or support to such parties.

3. Criteria & Submittals

3.1 Contract Terms

Mercy Corps intends to issue a Fixed Price contract to one or several company(ies) or organization(s). The successful offeror(s) shall be required to adhere to the statement of work and terms and conditions of the resulting contract. The anticipated contract is incorporated in Section 6 herein. By submitting an offer,



offerors certify that they understand and agree to all of the terms and clauses contained in Section 6.

3.2 Specific Eligibility Criteria

Eligibility criteria must be met and the corresponding supporting documents listed below under "Tender Submittals" <u>must</u> be submitted with offers. Offerors who do not submit these documents may be <u>disqualified</u> from any further technical or financial evaluation.

Eligibility Criteria:

- A copy of business registration document (CAC)
- A copy of tax certificate and/or Tax Clearance
- A copy of signed and stamped offer sheet

3.3 Tender Submittals

Documents and required information listed in tender submittals are necessary in order to support the eligibility criteria and to conduct technical evaluations of received offers (and due diligence). While absence of these documents and/or information does not denote mandatory disqualification of suppliers, the lack of these items has the potential to severely and negatively impact the technical evaluation of an offer.

Documents supporting the Eligibility Criteria:

- 1. A copy of Evidence of registration with CAC
- 2. A copy of Tax Identification Number and/or Tax Certificate (Clearance).
- 3. A copy of Signed and stamped price offer as per the provided template.

Documents to conduct the Technical Evaluation and additional Due Diligence:

- 1. A copy of certificate indicating relevant qualifications (e.g. Civil/Water Engineer, Geologist, or any other relevant qualifications.)
- 2. Curriculum Vitae and profile of offeror outlining past experience in construction of water infrastructure/projects
- 3. Proof of similar assignment on any Activity in Adamawa State or North East Nigeria
- 4. A copy of relevant certificate of membership of a professional body (COREN, NMGS etc.)
- 5. Detailed work plan including strategies to carry out the deliverables within the evolving COVID-19 pandemic and security consideration in the region.
- 6. A letter of consideration to also engage local labor (unskilled) from the beneficiary project community.

Price Offer:

The Price offer is used to determine which offer represents the best value and serves as a basis of negotiation before award of a contract. As a Fixed-Price contract, the price of the contract to be awarded will be an all-inclusive fixed price basis, either in the form of a total fixed price or a per-unit/deliverable fixed price. No profit, fees, taxes, or additional costs can be added after contract signing. Offerors must show unit prices, quantities, and total price, as displayed in the Offer Sheet in Section 4. All items must be clearly labeled and included in the total offered price.



Offerors must not include VAT and customs duties (if applicable) in their offer.		
3.4 Currency		
Offers should be submitted in: _NGN Payments will be made in:NGN		

3.5 Tender Evaluation (Trade-Off Selection Method)

Based on the above submittals, a Mercy Corps Tender Committee will conduct a tender evaluation process. Mercy Corps reserves the right to accept or reject any or all proposals, and to accept the offer(s) deemed to be in the best interest of Mercy Corps. MC will not be responsible for or pay for any expenses or losses which may be incurred by any Offeror in the preparation of their tender.

Evaluations will be conducted as described in the following subsections:

3.5.1 Scoring Evaluation

Trade-Off Method

Mercy Corps Tender Committee will conduct a technical evaluation which will grade technical criteria on a weighted basis (each criteria is given a percentage, all together equaling 100%). Offeror's proposals should consist of all required technical submittals so a Mercy Corps committee can thoroughly evaluate the technical criteria listed herein and assign points based on the strength of a technical submission.

Award criteria shall be based on the proposal's overall <u>"value for money"</u> (quality, cost, delivery time, etc.) while taking into consideration donor and internal requirements and regulations. Each individual criteria has been assigned a weighting prior to the release of this tender based on its importance to Mercy Corps in this process.

Offeror(s) with the best score will be accepted as the winning offeror(s), assuming the price is deemed fair and reasonable and subject to the additional due diligence in section 3.5.2.

When performing the Scoring Evaluation, the Mercy Corps tender committee will assign points for each criteria based on the following scale.

Point	Rationale
0	Not acceptable; has not met any part of the specified criteria
1-4	Has met only some minimum requirements and may not be acceptable
5	Acceptable
6-9	Acceptable; has met all requirements and exceeds some
10	Acceptable; has exceeded all requirements



Evaluation Criteria	Weight (%)	Possible Points (1 to 10)	Weighted Score
	(A)	(B)	(A*B)
At least 7 years of experience in the planning, designing, and construction of water infrastructure and/or and maintenance of building structures, and At least 5 years' experience of implementing and/ or rehabilitation, and construction of water-related projects;.	30%		
A minimum of B.Sc. in Civil/Water Engineering, Geology or any other relevant qualifications.	20%		
Prior experience working in hard-to-access local communities in Adamawa State/Northeast Nigeria	10%		
Detailed work plan including strategies to carry out the deliverables within the evolving COVID-19 pandemic.	10%		
A copy of relevant certificate of membership of a professional body (COREN, COMEG, NMGS etc.)	10%		
A letter of consideration to also engage local labor (unskilled) from the beneficiary project community.	20%		
TOTAL POSSIBLE SCORE:	100%		

3.5.2 Additional Due Diligence

Upon completion of both the technical and financial evaluations Mercy Corps may choose to engage in additional due diligence processes with a particular supplier or supplier(s). The purpose of these processes is to ensure that Mercy Corps engages with reputable, ethical, responsible Suppliers with solid financials and the ability to fulfill the contract. Additional due diligence may take the form of the following processes (though it is not limited to):

- Reference Checks
- Site Visit (Physical or virtual)
- RPS on Demand

4. Offer Form

Offerors must submit their own independant offer including at least (but not limited to):

- All documents requested in the "Eligibility Criteria" section of this Tender Package
- All documents requested in the "Tender Submittals" section of this Tender Package
- All information listed in the "Documents Comprising the Proposal" section below



All offers must be duly signed (including position and full name of the signer) and stamped, with the date of completion.

Documents Comprising the Proposal

The following information must be included in the offer of any potential offeror:

	Cover Letter explaining interest to be a contracted vendor or supplier, and the details of the	
	Propos	al. The content of the cover letter shall include the following information:
		A detailed specification of the offered goods, services and/or works (Proposal)
		Warranty (if necessary and appropriate)
		Delivery time
		Price validity date (for this purpose and as stated on the advertisement, quote given shall remain unchanged for 180 working days)
		Offer detailing the unit price only, using the Price Offer Sheet template provided in
	section	
	Comple 7)	eted and signed Mercy Corps Supplier Information Form (template provided in section
	Other i	mportant documents offeror feels need to be attached to support their proposal
The ori	iginal pr	oposal shall be signed by the offeror or a person or persons duly authorized to bind the
offeror	to the c	contract. Financial offer pages of the proposal shall be initialed by the person or persons
signing	the pro	posal and stamped with the company seal.

Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the proposal.

5. Scope of Work/Technical Specifications









1. GENERAL CLAUSES

Mercy Corps (MC) Nigeria Mission (herein referred to as the EMPLOYER) is planning to drill one borehole in Buso community, Borrong ward, Demsa LGA, Adamawa State.



- > Hydro-geological survey has been carried out to identify the exact drilling point.
- ➤ MC is seeking for a contractor to provide for proper tools, machinery, materials, and labor necessary for carrying out drilling and construction of the borehole, its development, test pumping, apron and other construction and Installation works as detailed in the technical Specification documents.
- ➤ The Contractor shall mobilize to site within two weeks of signing the contract. This should include taking over site, geophysics, and Drilling. The contractor shall take over site in the presence of the Supervisor, and Community.
- > Contractor shall provide work schedule within one week after signing of the contract.

1.1 Personnel and Equipment

The contractor shall provide qualified and competent staff to successfully execute the works. The contractor shall be responsible for the hiring of, and the transfer of his personnel as required during the contract period including procurement of entry visas and work permits for expatriates. He shall be responsible for arranging and providing housing and other logistics for his personnel.

Unless agreed otherwise by the Project Supervisor, the Contractor shall show evidence of the availability of a drilling rig and associated equipment capable of carrying out the same works and which can be mobilized and brought to the site within a period of not more than two weeks such that the contract period is not extended.

The Contractor shall provide and maintain enough suitable equipment to complete the drilling or rehabilitation works within the period specified in the contract. The equipment should include but not limited to some or all the following essential equipment:

- Drilling Rig
- ➤ Air compressor
- > Pumping test equipment
- > Support vehicles
- > Other accessories

SECTION 1: BOREHOLE CONSTRUCTION

1.1 SITE

1.1.1 Drilling Site

Mercy Corps has assessed the location indicating the drilling site and relative distances from the communities where the drilling will be carried out. It should be clear that this information does not hold MC responsible for the locally different conditions at the specific drilling site or for the constraints the contractor may encounter while carrying out this work. The contractor is expected to verify site conditions prior to commencement of drilling works. The contractor will clear all debris of any kind, and move from the site as far as is possible, in the original condition, once the work has been finished, the borehole developed, and test-pumping done, and the borehole installed with the solar pumping system

1.1.2 Hydrogeology

Because of the peculiar geological settings of each area, groundwater is expected within the lower aquifer zone whilst the upper subsurface conditions generally consist of clay or sandy clay aquicludes and fine to medium sand. The principal productive layers would generally be the



middle and lower aquifers. Drilling conditions are expected to be difficult; therefore, the driller should be prepared to deal with unstable, collapsing water-bearing top formations.

1.2 DRILLING

1.2.1 Drilling Methodology

The rig to be deployed must be capable of drilling to at least a depth of 25% beyond the anticipated final depth at the final required diameter. Temporary casing may be installed in the borehole to prevent formation heave, collapse or sloughing.

- The anticipated depth of the boreholes has been shown in the annex 1 and if the actual depth of the borehole being drilled justifies any additional depth in the specification, the contractor will request the authorization of Mercy Corps for such changes to be made.
- > The Contractor will be required to state the specifications of the drilling equipment that he intends to use.
- ➤ The communications will be made in writing and shall be properly recorded by Mercy Corps. In every case, if the actual characteristic of the well differs from those indicated in these terms of reference, and once the changes have been authorized by Mercy Corps, a price adjustment may be made according to the final depth of the well, and the unit price rendered by the contractor in his original proposal.

Selection of drilling method

Although the Contractor shall be responsible for selecting the appropriate drilling methods, the boreholes may be drilled by any of the following drilling methods

- ➤ The rotary drilling method will be involve using mixture of chemical (drilling fluid) Bentonite, Antisol and or extender as may be needed, the contractor will be required to state the type of polymer to be used and describe how the selected fluid additive will be mixed.
- The Contractor shall immediately after completion of the borehole pump out the drilling mud. The first step shall be the braking up of the mud with polyphosphates (terra sodium pyrophosphate, sodium pyrophosphate, sodium tripolysulphate, sodium hexametaphosphate or sodium heptaphosphate at a dosing rate of approximately 6g/l), surging or air lifting and finally the leaning and test-running with a submersible pump at the highest test pumping rate.

1.2.3 Borehole Construction

(Drawing to be done by the contractor after actual construction based on the approved casing string)

- The exact location of the borehole shall be identified in agreement with the local communities in consultation with the Mercy Corps WASH Team. The site should not be in a place that gets flooded in the rainy season and should be away from the flood plain area of any streams or rivers in the locality. Special care must be taken to ensure that the sites chosen are at least 50 meters away from toilet pits or any other sources of pollution such as graveyard, stagnant pools of dirty water or animal pens and should always be up the gradient (i.e., at upper level than the contamination source).
- At least two alternative (2) sites shall be identified at each location, which the contractor can move to in the event of the first site borehole being considered dry; Mercy Corps shall



- approve movement to the alternative site and meet relative additional mobilization costs incurred for that location.
- ➤ Boreholes shall be drilled to such depths as to penetrate below the shallow water table aquifers and tap the potential deeper aquifer or aquifers in confined/semi-confined conditions The depth to be drilled should be at least six (6) meters below the main aquifer to allow for open space during well construction
- The outer surface casing shall terminate not less than 0.1 meter above original ground level.
- > Dry boreholes are defined as:
 - ✓ A borehole having no water bearing zones/aquifers.
 - ✓ A Borehole that has insufficient discharge.
 - ✓ A borehole that has failed verticality test (See 3.4 below)
- ➤ It will be the duty of Mercy Corps to inform the Local community members at least 48 hrs in advance as to when the commencement of the drilling will be.

1.3 CASINGS AND DIAMETERS.

➤ The drilling of the borehole will be carried out according to the characteristics specified in this SoW and appendix of the specifications (BoQ), using the proper drilling tools, drive pipes (Drilling Rods), casing pipes, gravel packs and sanitary protection (seals) should isolate the aquifers from other formations, which are considered improper for the exploitation of wholesome water.

1.3.1 Screen Casing

The Contractor will use; Stainless steel JSS screen 150mm Diameter, the slot size and screen length depending on the aquifer materials and aquifer thickness. The Contractor will take sole responsibility of designing the well assembly and placing screen and casing at appropriate depths (Casing Tally) to match the positioning of the aquifer(s) which will be approved by Mercy Corps. Depending on the aquifer, the Contractor may choose an appropriate slot width other than 0.8 mm.

1.3.2 Plain Casing

Casing pipe should be of API type. The joints are properly cleaned with the cleaning fluids and or brush wire and welder (connected) horizontally in the drilled hole.

1.3.3 Permanent Casing

- ➤ Outer permanent surface Casing pipe should be of API type, standard lengths, nominal inside diameter of 6 inches casing, The boreholes will be fully cased up to bottom of the borehole except for open hole
- ➤ The Contractor will take all necessary precautions during the transportation and storage of casing pipes up to drilling site to prevent distortions, bending or deformation of the pipe that could result in eccentricity along the length of the pipe.
- ➤ The borehole construction design including casing string will be authorized by Mercy Corps WaSH Team before the plain casing; screen casings and gravel pack are introduced into the borehole.

1.4. GRAVEL PACKING, DEVELOPMENT AND TEST PUMPING.

1.4.1 Development.



➤ On completion of drilling, the Contractor will choose a suitable and appropriate borehole development method. The borehole shall be developed for a period of at least ten (10) hours to obtain a maximum yield of water that is free of suspended matter. Developing shall be carried out by airlift pumping and surging, jetting and block surging, or other techniques the contractor feels is more appropriate and efficient to suit the hydro-geological and drilling conditions prevailing in that borehole. Development will be considered complete only when less than 15 ppm of suspended solids remains in the water. It is recommended that flushing be done for a minimum of 10 hours. The boreholes shall be presented for testing free of any bridging or obstruction to the total depth.

1.4.2 Gravel Packing

- ➤ The contractor shall supply and install filter pack/formation stabilizer. The material shall be 2- 4mm diameter, clean well rounded siliceous gravel with no more than 5% non-siliceous material. The pack must be approved by Mercy Corps prior to installation. Installation of filter pack/formation stabilizer may be water wash down or reverse circulation methods. In the latter case a pump set, or airlift string shall be installed in the borehole to encourage material settlement. The filter pack shall terminate not less than 3m above the uppermost screen when stabilized, or as otherwise directed by Mercy Corps. The Contractor shall provide a means by which this level may be measured.
- ➤ The gravel shall be rounded (not crushed) quarzitic types and the selection of the gravel shall be based on the results of grain size analysis of the borehole at the level of the aquifer. The recommended grain size for slot 20, if used, shall be 2-4mm and for slot 10, it shall be 1-3mm. The maximum percentage of permissible undersize is 3%. Samples of gravel shall be tested by the Contractor and test results and samples shall be submitted to the Supervisor for approval.
- ➤ Backfill material shall comprise fine or clayey drill cuttings and shall be installed from the top of the filter pack to 6m below ground level unless otherwise directed by Mercy Corps. The installation method must ensure that no bridging occurs within the annular space. The Contractor shall measure the depth to the top of the backfill and provide how this level may be measured.
- Any casing and/or screen damage during installation, gravel packing and well development shall be the responsibility of the CONTRACTOR, who shall make the necessary corrections/repairs without additional cost to the Mercy Corps. When well development is completed, the gravel packing will be topped up if it is found settling below the required depth.

1.4.3 Test Pumping and Recovery

- ➤ Borehole yield tests shall be carried out in accordance with BS ISO 14686:2003 using pump sets provided by the Contractor. The tests are to be undertaken by the Contractor under the supervision of Mercy Corps or his authorized representative. The discharge, after measurement, shall be led away from the site to a suitable out fall. The Supervisor shall be informed a minimum of one week before the starting of the test.
 - The test shall be carried out to explore and determine:
 - The aquifer characteristics.
 - The maximum possible safe yield of the borehole.



The Contractor shall supply two submersible pumps for this purpose, one operating and one standby.

Drawdown shall be measured by an electrical probe accurate to one centimeter, or other methods proposed by the Contractor and approved by the supervisor. A temporary probe-across tube shall be installed down the borehole, if required. The Contractor shall record water levels at the appropriate intervals for subsequent plotting by the Contractor on logarithmic paper with a particular emphasis on the accuracy of early readings. During the test pumping of the borehole, water level measurements shall be carried out to specifications.

Water levels shall be recorded at the following intervals, or at other intervals approved by the Supervisor.

- Immediately before discharge is started.
- Every 30 seconds for the first 10 minutes.
- Every 15 minutes thereafter until the completion of 1 hour or pumping.
- Every 15 minutes thereafter until the completion of 4 hours or pumping.
- Every 30 minutes thereafter until the completion of 8 hours of pumping.
- Every hour thereafter until the completion of 24 hours of pumping.

The means used to measure time shall be accurate to the nearest second. During the first 10 minutes of the test, an error in time-keeping greater than 3 seconds should be avoided. Timing devices should be synchronized prior to the start of the test. The start and completion of events should be recorded in local time; the test should be started on the stroke of the hour.

The approximate discharge rate of each of the steps shall be determined by the Contractor and agreed with the Supervisor prior to the start of the test. The discharge rate shall be approximately adjusted to the following rates:

- 1. 30% of the agreed rate.
- 2. 60% of the agreed rates.
- 3. 90% of the agreed rate.
- 4. 120% of the agreed rate.

The degree to which the control valve shall be opened to establish the initial discharge rate shall be determined from pressure gauge readings or from the number of turns on the control valve.

The discharge rate shall be held as near constant as possible throughout the period of each step and, unless it is grossly at variance with the intended rate, no major adjustments need be made. If major adjustments are necessary, they shall be made during the first few minutes, or the test must be started again after full recovery of the ground-water level.



- ➤ Pumping test will be for twenty-four (24) hours, of which 8 hours is a step draw down test and 16 hours of continuous test. A pumping test is required on a routine basis for each borehole. The Contractor will estimate the discharge from the air lifting rates during borehole development. Based on the estimated discharge, the Contractor will certify the borehole as either "productive" or "abortive".
- The recovery shall be tested with the recovery test. The recovery test shall commence immediately upon the end of each step of the pumping test. The discharge shall be stopped at the designated moment by stopping the pump. The ground water level shall be measured in the borehole at the intervals stated above, commencing at the time discharge ceases. The recovery test shall be continued until a stable water level has been achieved. The pump test data and the results of pump test is presented in the standard form attached (Annex 1, 2,3)
- ➤ Readings of flow and water level shall be taken at the intervals defined on the test pumping form. For accurate measurement, an electrical/sonic water level indicator with graduated tape for taking water level readings. Recovery readings shall be taken until attest 80% recovery is attained, during which period airlifting or pumping equipment shall not be removed from the borehole.
- ➤ The Contractor can also use any other method approved by the Supervisor to measure the exact quantity of water pumped.

1.4.4 Other specifications.

The contractor will evacuate all pumped water in such a way that no impoundments are produced at distances less than 200 meters from the borehole. The contractor will provide all necessary elements for this purpose which include provision of all necessary implements and pumping equipment i.e., weirs, pipes, gauges etc. for the proper measurement of discharge rates and water levels and disposal of extracts.

1.5 WELL PLUMPNESS AND ALIGNMENT.

1.5.1 Tests.

The borehole should be tested for plumpness and alignment by means of a 12 meter long, and perfectly straight, steel pipe that should be introduced along the whole borehole. The external diameter of this should, at most, be 13 mm less than the well casing inside diameter. This pipe will be supplied by the contractor.

1.5.2 Minimum Requirements.

Such a test pipe, as described above should easily move through the whole borehole. The loss of plumpness of the well's axis should never be more than 2/3 of the smaller inside diameter of the casing. If these minimum requirements are not met by the well, the contractor will be required to correct the defects, otherwise Mercy Corps will reject the borehole and no payments will be made for its drilling and completion. This test should normally be done before pump testing the well in the presence of the agent appointed by Mercy Corps.

1.6 PROTECTION OF WATER QUALITY, DISINFECTIONS AND SAMPLING.

1.6.1 Borehole Protection.

The contractor will take maximum care to avoid the physical, chemical, or bacteriological contamination of the borehole water, during the construction and after construction operations. In



any case, where water is polluted due to the contractor's neglect, he will be obliged to carry out all the necessary operations, at his own cost, to rectify such pollution of the borehole.

1.6.2 Well sterilization.

Once the well has been completed and tested, disinfection will be undertaken by introducing granular Calcium Hypochlorite, Sodium Hypochlorite into the annular space along with the gravel pack material at a concentration of 500 grams per cubic meter of pack. This will initiate the process of sterilizing the Borehole and the chlorine solution should stay in the well for at least four hours, at the specified concentration.

1.6.3 Samples.

- ➤ The contractor will take at least one sample every three meters of drilling, unless a change in formation is encountered by the driller. In such cases, additional samples should be taken. The minimum weight of each sample should be 100grams.
- ➤ The contractor will keep a complete record of the samples taken from the cuttings during the drilling operation, in properly packed and identified sample bags, and all will be made available to Mercy Corps upon request.
- The contractor will supply a detailed borehole geo-log data, in which all the relevant information and drilling velocity, well casing and other well construction operations will be recorded. The contractor will also annotate all information pertaining to the appearance of water filtrations and aquifer, types of rock found and sampling details (lithological data).
- The contractor will be required to complete the log forms for the borehole. (Ref Annex 4)
- ➤ The contractor will provide the Borehole Completion Record immediately upon completion of the drilling work. (Annex 4) The Borehole Completion Record will also be accompanied by Water quality certificates capturing, chemical and physical water qualities
- For each rock sample that has not been taken the contractor will be fined a penalty amounting to 1 per cent of the total value of the well and this will be deducted from the final payment. If the total amount of samples not taken is more than 15% of the specified number, the well should be started again, and Mercy Corps will not make any payments for this additional work.

1.6.4 Water samples.

A minimum of 2 liters each for chemical and bacteriological analysis shall be collected by the contractor in the presence of the Supervisor or his representative (2) liter samples in a clean plastic bottle from the borehole for reference to a Water Testing Authority recognized and authorized by Mercy Corps for laboratory analysis, after completion of test pumping. One sample will be used for each of these tests; physical and chemical analysis, which should be collected in clean, sterilized properly sealed and protected plastic containers. The samples so collected should reach the authorized water testing laboratories (MWR and NAFDAC), within 6 hours from the time of collection from the borehole unless otherwise. Specific parameters to be measured shall include.

- ➤ Physical Parameters Colour, Odour, Taste, Turbidity, pH Value, Electrical Conductivity, Temperature
- ➤ Chemical Parameters Nitrate, Nitrite, Total Hardness, Fluoride, Chloride, Sulphate, Copper, Manganese, TDS, Total Iron, Arsenic
- ➤ **Biological Parameters** Faecal Coli form Counts



1.6.5 Particle Content in Pumped Water.

The water drawn out of the well will be acceptable if it has a sand particle content of less than 5 milligrams per cubic meter. In case this allowed maximum limit is not met, the contractor will make all necessary adjustments to the well structure, at his own expense, to meet these specifications.

1.7 FINISHING WORKS AND REPORTS

1.7.1 Temporary Lid.

The contractor will pay close attention to the due protection of the aperture of the borehole against the entrance of water or any other pollutants while drilling or after the completion of the borehole. For this purpose, the contractor will provide a lid to be placed on the entrance of the well at any time the drilling rig is not in operation.

1.7.2 Sanitary Protection Seal and Well Head Construction

- ➤ The top of the casing shall be a minimum of 200mm above the original ground level and there shall be a flange for connection of the wellhead assembly. Around the casing, there shall be a 1m x 1m concrete slab. The slab shall be slightly cambered away from the borehole.
- After completion of the pumping test, removal of the test pumping unit and after the last water level recovery observations have been made, the level of the gravel pack will again be checked to see if there is any settlement below the required depth. If it is found below the required depth, it will be topped up to the appropriate level. Based on the actual situation, the annular space between the well and the permanent casing will be cement grouted down to at least 6m from the surface in order to prevent contamination of the borehole by surface run-off water
- The surface/outer permanent casing must protrude 0.1 meters above the ground label
- > Specifications related with wellhead construction, installation of pumps have been indicated in the specifications and bill of quantities Part.

1.7.3 Abandoned Borehole.

- ➤ If the contractor is not able to finish the drilling or must abandon the borehole due to loss of tools, accidents or any unforeseeable circumstances, the contractor should remove the casings or drive pipes already in the hole and refill it with clay or concrete. All materials extracted from the hole, after refilling it will be the property of the contractor.
- In case a situation described above occurs, Mercy Corps will not pay for any of the work carried out and will authorize in advance the drilling of a new hole, at a site near the abandoned one, if need be, at the contractor's expenses.

1.7.4 Report Compilation

On successful completion of the borehole, three hard copies of detailed completion report and an electronic copy shall be submitted to the Employer. The report shall comprise but not limited to the following:

- Project completion summary sheet (as provided)
- Drilling method
- ➤ Driller's log
- > Rate of penetration



- > Drilling bit diameter
- ➤ Lithological log
- ➤ Mud/additives used
- ➤ Materials installed
- ➤ Details of geophysical well logging (where applicable)
- ➤ Details of borehole design (composite log)
- > Pumping test result
- ➤ Water quality result
- > Pump installation details
- Incidents and accidents of any kind

SECTION 2

2.1 WATER STORAGE TANKS AND SUPPORT

2.1.1 Steel Support

- ➤ The Contractor shall supply and erect PVC tanks and Steel towers in accordance with the Mercy Corps drawings and BoQ.
- ➤ All structural steel work shall conform to BS 4 and all sections shall be at least equivalent to those shown in BS 5950 unless otherwise shown on the drawings or indicated in the BoQ.
- ➤ The Steel support structure shall be as specified in the drawing and BoQ complete with ladder to the top of catwalk and all nuts, bolts, washers as necessary for site erection. The tank steel support structure shall be painted with one coat of red oxide primer and one coat of aluminum paint before dispatch, and one coat of aluminum paint after installation
- ➤ Provision will be made for 450 mm wide catwalk complete with hand railing around the perimeter of the tank and 450 mm wide valve-operating platform with hand railing approximately 3 meters below the tank base.
- > Supply, deliver and install all pipe work necessary to operate tank, inlet, outlet, washout, overflow, and other fittings as shown on the drawings.
- ➤ Ends of beams and joints, including other members, shall be cut to exact lengths true and square and shall be cleaned of burrs or rough edges. Drilled or punched holes shall not be greater than 1/16" more than the bolt diameter and they shall be cleaned of burrs and rough edges.
- ➤ All fillet welds and gussets plates should not be less than 6mm thick unless otherwise stated. Holes on angles and gusset plates to be 18mm diameter. All welding is to be deslagged and wire brushed. All bolts should be to be M16 (grade 4.6).
- ➤ Foundation bolts are to be properly levelled before casting. All nuts' heads are to be covered to avoid cement setting on threads. Gravel should be crushed and not exceeding 19mm (0.75 inch)
- ➤ Reinforcement bars should be free from rust and of the correct type and size for concrete construction work (typically a characteristic yield stress of at least 210 N/mm²).
- ➤ 6m standard steel stanchion consisting of six numbers 200 x 100 x 4mm steel I-section braced with 50mm angle section.

2.1.2 Support Foundation



- Excavate foundation trench to a depth not below 2000mm at 4200 x 4200mm for footing as specified in drawings.
- > Trim and level off surface of excavated surfaces under surface beds
- As preparation to receive foundation base and column, place a surface blinding of 50mm thickness with a concrete mix ratio of 1:2:4.
- ➤ Place reinforcement basket for column base on surface blinding. Basket should be of high yield steel diameter 16mm with a mesh of 150mm c/c in top and bottom as specified in drawing. Allow for column reinforcement of steel diameter 20mm centralized on footing basket and firmly secure with binding wire. Column dimension shall be 400 x 400mm and will be 1950mm high. Column links shall be spaced at 150mm using 6mm diameter stirrups.
- ➤ Supply materials, prepare and cast concrete Grade 20/19mm aggregates as footings, 3600 x 3600 x 500mm deep for each footing.
- Formwork to vertical strutting shall be provided for casting of columns and shall remain in position until the newly constructed work is due for curing.
- Cast concrete grade 20/19mm aggregates as column. Column dimension shall be 400 x 400mm and will be 1450mm high from footing as specified in drawing
- ➤ Concrete cover of 50mm should be used for all RC casting
- ➤ Allow at least 72 hours for curing before removing formworks
- ➤ Backfill to trench and compact
- ➤ Prepare and cast oversite concrete 3600 x 3600mm and 150mm thick using mix ratio 1:6.

2.1.3 Access Ladders

- Supply and fix 50 x 50 x 2mm flat bar as balustrade (ladder)
- An outside tank caged ladder shall be furnished and installed as shown in drawings.
- An interior ladder shall be furnished and installed as shown in drawings.
- Ladders shall be fabricated of hot-dipped galvanized carbon steel.
- ➤ Safety cage as well as intermediate and top step—off platforms shall be fabricated of hot-dipped galvanized carbon steel.

2.2 DISINFECTION

- ➤ Provide for the disinfection of the tanks after installation.
- Fill the tanks a quarter full of clean water. Sprinkle 80 grams of granular high-strength calcium hypochlorite HSCH into the tank for every 1000 liters total capacity of the tank. Fill the tank completely with clean water, close the lid and leave to stand for 24 hours.
- ➤ Completely empty the tank and carefully dispose of the disinfecting water as it will contain a high concentration of chlorine. Fill the tank with drinking water; allow standing for about an hour then empty the tank again.
- ➤ Care must be taken when disposing of all liquids used for cleaning and disinfecting the tanks. Sudden discharge of water will cause localized erosion or flooding. Make sure the water follows a channel to its final disposal point.
- ➤ Liquid waste should not be disposed of in rivers and ponds as the organic materials and high chlorine levels may kill fish and plant life.

SECTION THREE

3.1 SOLAR SYSTEM



- The Contractor shall provide 10 pieces 240V photovoltaic systems. All the solar panels shall be made of crystalline silicon solar cells. All systems shall be fully operational turnkey installations. Contractor shall make their own assessment of the sites and suggest a suitable location for installation of the PV systems on the ground. The location chosen for system installation for each site shall be approved by MC Supervisor.
- According to the Supervisor's technical assessment of the water points, all the facilities have adequate unshaded space. The Contractor shall make own assessments for enough space available for unshaded array: The array will be installed where shading is avoided from 6am 6pm "solar time" each day of the year. This will be verified during the preinstallation and the acceptance test.
- ➤ The installed system must meet applicable national standards and codes. Plastic laminated safety signage placards should be provided for each installation. Contractor shall install the same at designated locations as per instructions.
- For each water point, PV modules must be procured for same make (manufacture) and same wattage rating.
- Contractor shall supply and install circuit breaker (DC disconnect) 16A 100v and change over switch 50A 415V

3.1.1 PV System Mechanical Design Specifications

- ➤ The installed system shall include all hardware required for assembling the photovoltaic array, balance of system components, and structural attachments to mounting frames
- ➤ The PV array shall be installed on the mounting frame with a slope which is approximately 20 degrees, and an eastern orientation within northeast to southeast +/-15 degrees of true south.
- ➤ The PV array mounting structure, including modules, and balance of system components shall be designed to withstand wind loads of at least 60 mph.
- Adequate spacing, about 4 to 6 inches, between the ground surface and PV mount frame shall be maintained to allow air circulation to cool the module back sheet.
- Array mounting frames supplied shall be compatible with the site considerations and environment.
- Mounting frames shall be made of 50mm-by-50mm angle iron of 2mm thickness.
- Mounting frames for ground-based PV modules should be placed on 2" GI pipe stanchion buried 50mm below ground level in concrete of mix ratio 1:3:6. Concrete mould should be 50mm above ground level for each stanchion. Stanchions should be spaced at 3460mm spacing horizontally while allowing 300mm hangover at both sides and 1600mm vertically.
- > Special attention shall be paid to minimizing the risk from exposed fasteners, sharp edges, and potential damage to the modules or support structure. All potentially hazardous hardware shall be protected or shielded for safety.
- ➤ Mechanical hardware, conduit, and other equipment shall be concealed beneath and/or behind the array. Contractor shall provide combiner boxes if required



- ➤ The array layout shall be consistent with the ordering (and labeling) of source circuits in the array combiner boxes. Accessibility to perform array troubleshooting and maintenance is required by allowing access to the back of the array.
- ➤ The PV systems will be installed in communities; therefore, population safety is critical. Contractor must minimize the risk of vandalism, theft and personal injury in the installation and operation of the system.

3.1.2 PV System Electrical Design Specifications

- A grounding electrode shall be installed for the arrays.
- All inverters shall be commercially available models and must include ground-fault protection with a visible indicator. The inverter size shall be 3KW RSI
- ➤ Inverter/Charger shall be installed at the same location or within proximity.
- All outdoor wiring must be listed to a temperature rating of 90°C in wet locations, and it shall be listed as sunlight resistant where run outdoors and outside of conduit. All AC wiring shall be ducted in metal conduits. DC wiring can be ducted in PVC conduits.
- ➤ Outdoor-rated, visible-break lockable disconnects shall be installed on each set of current carrying conductors entering or leaving the array area.
- ➤ The wiring shall be sized appropriately to avoid more than 1% voltage drop.

3.2 SYSTEM WARRANTIES AND MAINTENANCE

- The supplier/Contractor must provide warranties to Mercy Corps on both the complete system and individual components. The methods for implementing and terms of the warranty provisions must be clearly established and handled by the system supplier/Contractor as the single point-of contact for warranty service with the end-user.
- At a minimum, the following warranties are required:
 - One (1) year complete system-level warranty and service contract for no-cost replacement of any defective component required for safe and as-specified system operation.
 - o Inverter must have a minimum five (5) year warranty.

3.3 OTHER REQUIREMENTS

3.3.1 Inspections and Acceptance Testing

➤ Contractor shall ensure that all project specifications have been met. MC will verify compliance through a site inspection and acceptance tests. The contractor shall be available and present for the acceptance tests, which will be scheduled with reasonable advance notice (notwithstanding delays due to weather). Acceptance testing will verify that the system and equipment specified in the bid was installed in a safe and code-compliant manner and is operating properly under all conditions.



- ➤ All charges incurred because of non-compliance on the part of the Contractor shall be borne entirely by the Contractor and shall be deducted from the final payment.
- Acceptance testing forms will be made available to the contractor as early as possible after award but no later than before system construction begins.

SECTION FOUR:

4.1 TAP STANDS

- From the overhead tank a 2" GI pipe, with an approximate length of 10m will be installed to reach the ground.
- A 2" flow meter will be installed in a box for protection.
- > On the ground a 2" UPVC 10 bars resistance pipe of 40m will be laid into a trench (same trench as the supply trench).
- > To protect the pipes in the runoff drainage channel, the supply and the distribution pipes will be protected in a bigger GI pipe.
- A connection box will be installed. Two 1*1/4" GI valves will be installed, and two lines will be created.
- > Two lines on 1*1/4" UPVC 10 bars resistance will be laid to each water point, the total length of the two lines will be 1000m.
- ➤ The foundation for the tap stands will be done with two layers of 6" sandcrete, with a dimension of 1.6 x 3.5 m (5.6m²) and will be laid on a blinding of 50mm using mix ratio of 1:6 cement to sand.
- ➤ Medium mortar (300Kg of cement /m3) will be used for joints.
- Two layers of sandcrete will be line up to realize the slab (surface).
- A layer of one sandcrete will be laid on the edge to realize a curbstone. To facilitate the access and formalize the entrance and the exit two sandcretes will be remove of the edge one at the front the other at the back.
- ➤ The floor of the drinking water point will be plastered with a mix ratio of 1:4 with a thickness between 0.010m and 0.08m
- ➤ A slop toward the outlet will be realized to evacuate runoff water
- > Steps will be realized with sandcrete to facilitate the access to the infrastructure.
- A valve box will be installed at the entrance of infrastructure with a dimension of 1*1/4"
- ➤ A GI 1*1/4" pipe embedded into concrete will be installed on the structure.
- \triangleright Six (6) standpipes of 1"1/4 will be connected to the embedded piped and reduced by $\frac{3}{4}$ ".
- The six standS pipes will be protected by a 4" UPVC pipe filled with concrete with a ration of 300Kg/m3 minimum.
- ➤ A 3/4" GI heavy duty tape will be connected to the 6 standpipes

4.2 <u>SOAK PIT</u>

- The excavation of the pit will have to reach the layer of sand (approximately 3m deep)
- ➤ The soak pit will be done by lining sandcrete block 9" with a dimension of 1500x1500x1500mm on purpose to facilitate the infiltration. Depth of the soak pit is subject to change by MC supervisor.
- Sandcretes will be perforated, with 2" UPVC pipe tilted to facilitated infiltration of water and reduce the sand to come into the soak-pit. UPVC pipe will be installed only on the sandy layer spaced by 0.25m.



- The sandcrete will be laid on a blinding of 50mm using mix ratio of 1:6 cement to sand.
- ➤ Cast soak pit cover of dimensions 1450x1450mm and cure for 48hours before placing on soak pit. Slab thickness should not exceed 100mm with 10mm diameter iron bar spaced at 200mm center to center top and bottom. Concrete grade 20 of mix 1:2:4 20mm coarse aggregate). The cast soak pit will be seal to his base.
- ➤ Backfilling around the soak pit will be done with sand to increase the infiltration capacity by increasing the contact surface.

4.3 ANIMAL TROUGH

- Dimensions: 2.5m x 4m x 0.9m deep
- The animal trough will be constructed using 9" sandcrete block wall finished with 1:6 mortar mix ratio.
- ➤ The animal trough will be linked to the fetching point at 50m apart and piped with 6" UPVC pipe to collect wastewater during and after fetching. This distance is subject to change by MC supervisor.
- ➤ The UPVC pipes shall be installed at a convenient gradient to ensure easy flow of water from the fetching point to into the animal trough.
- ➤ Provide 50mm blinding to the base to disallow infiltration of water beneath the ground.

SECTION FIVE:

FENCING AND LANDSCAPPING

- ➤ 1.8m high by 14-gauge chain link tied to stretching wire at 3- steps through the post
- ➤ Chain link Mesh wire fencing 1800mm high overall fixed to 3 No strands of galvanized straining wire spaced at 500mm spacing.
- > Tension wire to run in a straight line in each line of fence between corner posts.
- > The chain link is tied with stretching wire.
- All wire clips to be secured so that pointed or jagged ends do not protrude from fencing
- Construct and install metal gate with overall width of 3m and with 1.8m height
- ➤ The gate shall be constructed with rectangular section G.I pipe complete with locking devices.
- For Gates to be of overall standard widths and heights unless otherwise noted on drawings. The vertical members for the gate should not exceed 1.8m with rectangular section metal of 80mmx40mm. While the bracing members should not be less than 40mm x 40mm rectangular section with galvanized malleable iron hinges, latch and all necessary hardware attached.
- Apply 3 coats of white paint to all the constructed work
- > Spray zinc oxide as first coat and second coats of silver paint to protect the poles from corrosion.
- Level perimeter area to receive one layer of 20mm nominal size gravel
- > Spread and level gravel all over perimeter



Mercy Corps Supplier Information Form



The information provided will be used to evaluate the Company before contracting with the Mercy Corps.

Please complete all fields.

Supplier Information

Company Name	
Any other names	
company is	
operating under	
(Acronyms,	
Abbreviations,	
Aliases)	
Previous names of	
the company	
Address	
Website	
Website	
Phone/Fax	Phone: Fax:
Numbers	
	Name:
	Name:
Primary Contact	Phone Number:
·	
	Email Address:
# of Staff	
II CT	
# of Locations	
Avg. Value of	
Stock on Hand	
(USD)	



Government - owned (yes/no)	
Name(s) of Board of Directors	
Name(s) of Company Owner(s)	
Parent companies, if any	
Subsidiary or affiliate companies if any	
Financial Information	<u>on</u>
Bank Name, Account number and Bank Address	
Name under which company is registered at bank	
Payment Terms	Payment By: Check Yes No Wire Transfer Yes No
Specify Standard Payment Terms (Net15, 30, etc.)	
Product/Service Info	<u>ormation</u>
List Range of Products/Services Offered	



77. 0	
etc.)	
oto)	
(Catalog, List,	
(Catalaa I ist	
Basis For Pricing	
D . E D	

References

Client Name:	Contact Name, Phone, Email Address:
Client Name:	Contact Name, Phone, Email Address:
Client Name:	Contact Name, Phone, Email Address:

Supplier Self-Certification of Eligibility

Company certifies that:

- 1. It, its affiliates and subsidiaries, owners, officers, directors and key employees (to the best of its knowledge) are not the subject of any government's sanctions, designations, donor rules or prohibitions, or laws prohibiting transactions with it/them. It is not the subject of any donor government investigation into its misconduct with any other recipient of that donors funding.
- 2. It, its affiliates and subsidiaries, owners, officers, directors and key employees have not and do not engage in any form of terrorism or attacks on civilians and do not provide any form of material support or financial resources for individuals or organizations that do engage in any form of terrorism or deliberate attacks on civilians.
- 3. It, its affiliates and subsidiaries, owners, officers, directors and key employees have not and do not engage in weapons or drugs manufacture, transport, sale or distribution.
- 4. It is not in default on any material credit agreement, bankrupt or being wound up, are having its affairs administered by the courts, have entered into arrangements with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations.
- 5. It is has not been determined to be in breach of a material contract by any legal body anytime within the past 2 years.
- 6. It pays taxes as and when due and is not currently the subject of any investigation or proceeding related to back-owed taxes.
- 7. It provides workers compensation insurance to its workers in accordance with the laws of the countries where it operates.
- 8. It pays social security obligations as required in the countries where it operates.
- 9. It, its owners, officers and directors have not been convicted of an offense concerning its professional conduct and has not engaged in grave professional misconduct.
- 10. It, its affiliates and subsidiaries, owners, officers, directors and key employees have not been the subject of criminal investigation or judgement for fraud, corruption, human trafficking, spying, weapons transport or smuggling, sexual exploitation or abuse, internal sexual misconduct, abuse or exploitation of children, involvement in a criminal organization or any other criminal activity.
- 11. It treats its employees with dignity and respect and maintains social operating standards, including: working conditions and social rights; avoidance of child labor, bondage, forced labor, human trafficking or exploitation; assurance of safe and reasonable working conditions; freedom of association; freedom from harassment (including sexual harassment), exploitation, abuse, bullying



and discrimination; protection of basic social rights of its employees and Mercy Corps beneficiaries.

- 12. To the best of its knowledge, no Mercy Corps employee, officer, consultant or other party related to Mercy Corps has a financial interest in the Company's business activities, nor is any Mercy Corps employee related to any owner, officer, director or employee of the company, and, if so, it will ensure that the relationship is disclosed to Mercy Corps and will not used for improper influence. Discovery of an undisclosed Conflict of Interest will result in immediate revocation of the Company's Authorized Supplier status and disqualification of Company from participation in future Mercy Corps procurement.
- 13. It understands that attempting to or agreeing to provide anything of value to any Mercy Corps employee, agent or representative for the purpose of encouraging that person to award Company a contract or take or not take any action related to any contract will result in immediate termination of any agreement. Company certifies that it does not engage in such conduct..
- 14. It understands that Mercy Corps seeks fair and open competition and the fairest price available and that any attempt by company to subvert fair and open competition, including working with other bidders to fix prices, working to exclude competition, seeking confidential information from Mercy Corps or other bidders, using multiple related or controlled companies to give the appearance of competition, or any similar activity, will result in termination of any agreement. Company certifies that it does not engage in such conduct.
- 15. It understands that Mercy Corps prohibits any of its partners or suppliers from bribing public officials and certifies that it does not do so.
- 16. It is not conducting business under other names or aliases that have not been declared to Mercy Corps.

If the Company cannot certify to any of the above it should explain why not. Mercy Corps may take the individual circumstances into account for some situations. However, any false certification could be grounds for immediate disqualification and termination of any future agreement.

By signing the Supplier Information Form you certify that your Company is eligible to supply goods and services to major donor funded organizations and that all of the above statements are accurate and factual.

Company Name:

Company Name:	
Name of Representative:	
Title:	
Signature:	
Date:	

FOR MERCY CORPS USE ONLY

Following documents have been provided

Documents	
A copy of business registration document (CAC)	
A copy of tax certificate and/or Tax Clearance	
A copy of signed and stamped offer sheet	
CV showing A minimum of B.Sc. in Civil/Water Engineering, Geology or any other relevant	
qualifications.	
Verifiable evidence of At least 7 years of experience in the planning, designing, and	



construction of water infrastructure and/or and maintenance of building structures, and At least 5 years' experience of implementing and/ or rehabilitation, and construction of water-related				
projects;				
Prior experience working in hard-to-access local communities in Adamawa State/Northeast				
Nigeria				
Detailed work plan including strategies to carry out the deliverables within the evolving COVID-19 pandemic.				
A copy of relevant certificate of membership of a professional body (COREN, COMEG, NMGS etc.)				
A letter of consideration to also engage local labor (unskilled) from the beneficiary project community.				
an employee of Mercy Corps having completed and reviewed this	;			
fame				
itle				
ignature				
ate*				
Supplier to be re-authorized one year from this date.				



6. Sample Contract

This is the anticipated contract. However, if required, additional terms and conditions may be added by Mercy Corps in the final contract.

SIMPLE WORKS CONTRACT

	SIMPLE WORKS CONTRAC	1
	Contract No	
	NSTRUCTION Contract entered into as of State of Washington, U.S.A. nonprofit corporation	
Oregon, U	.S.A. ("Mercy Corps"), and	("Contractor") is as follows:
	actor's Work.	
a.	Contractor will [Insert description of work. For drainage ditch at XYZ location, completing the wo above are referred to as the "Work".	
b.	Contractor is responsible for obtaining all necessar it in performing under this Contract and all	• • • • • • • • • • • • • • • • • • • •

- governmental charges regarding the work.
 c. Contractor will strictly comply with all of the specifications and requirements set for in the contract documents, which include the following documents and appendices (collectively the "Specifications"): [list all documents that include design specifications, minimum requirement, BoOs, etc].
- d. Contractor will comply with each of the attached Donor Terms in Schedule I.
- 2. **Timing.** Contract must complete the Work by XXX.
- 3. **Price.** In exchange for Contractors satisfactory delivery of the fully completed Work, Mercy Corps will pay Contractor the firm and fixed price of XXX [state amount and currency].
- 4. Inspection and Acceptance. .
 - a. Mercy Corps and Owner (if applicable) will have access to the site of the Work and the right to inspect the Work at all times. If at any time an inspection by Mercy Corps or owner determines that Contractor or its subcontractors are in breach of any provision in this Contractor including any failure to adhere to the Specifications, Mercy Corps will use its best efforts to timely report such breach to contractor. No inspection by Mercy Corps will relieve Contractor from its obligation to complete the Work in strict adherence with this Contract and its Specifications or waive any right or remedy that Mercy Corps has against Contractor as a result of the breach.
- b. Mercy Corps will use its best efforts conduct a final inspection of the work with Contractor.

 5. **Invoicing and Payment**. Contractor will submit an invoice to Mercy Corps for payment on *[list the invoicing schedule here For example: Mercy Corps will pay Contractor \$__ within __ days after the work is completed to Mercy Corps' satisfaction.]*. Invoices must contain *[list the contents that must be included in all invoices]*. Mercy Corps will make payment within xxx days of receipt of receipt, with payment made via xxx and delivered to the following xxx *[list person, place and/or bank account details here]*. If Mercy Corps disputes any portion of the invoice due to Contractor's breach of this Contract or failure to deliver the Work in accordance with the Specifications, Mercy Corps will notify Contractor in writing of such dispute and may pay only the portion of the invoice not in dispute and withhold payment of the disputed amount until the breach is corrected.



- 6. **Change Orders**. The Work may be changed only be by written change order signed by both parties.
- 7. **Termination.** Mercy Corps may terminate this Contract for its convenience by providing Contractor with written notice of such termination. If Mercy Corps terminates for its convenience, Mercy Corps will pay Contractor reasonable compensation for the work performed to the date of termination. Either party may terminate this contract due to the other Party's breach of any provision of this Contract by providing the other Party with written notice of such breach and 15 days to correct the breach. If Contractor fails to correct the breach within 15 days, upon termination, Mercy Corps will have no obligation to pay Contractor for any partially completed work.
- 8. **Indemnification**. Contractor will indemnify Mercy Corps and the owner of the property and each of their officers, directors, employees, representatives and agents, and hold them harmless from, any and all losses or claims, fines, penalties, government or donor investigations, including reasonable attorney's fees related thereto, arising out of Contractor's breach of this Contract, or Contractor's its employees, agents or subcontractors negligent acts or omissions or willful misconduct.
- 9. **Independent Contractor**. The parties intend to be independent contractors. Neither party will be deemed an agent or partner of the other party.
- 10. **Contractor's Representations and Additional Covenants**. Contractor represents and warrants to Mercy Corps and covenants with Mercy Corps as follow and agrees that Owner is a third-party beneficiary of these representations, warranties and covenants:
 - a. Contractor has full rights and authority to enter into and perform its obligations under this Contract. Contractor's performance will not violate any agreement or obligation between Contractor and any third party.
 - b. Contractor has the requisite skills to perform the Work.
 - c. Contractor possesses all governmental and other certifications and licenses necessary to perform its obligations under this Contract.
 - d. Contractor will comply with all applicable law, regulations and rules in the execution and performance of under this Contract.
 - e. (i) Contractor has visited the project site where the Work is to be performed and become familiar with the local conditions (including existing structures) under which the work is to be performed, (ii) the payment terms are reasonable compensation for the work, (iii) the time for performing the work is adequate and reasonable, (iv) Contractor has satisfied itself as to the nature, location, character, quality and quantity of the work and the labor, materials, equipment, goods, supplies, work, services, and other items to be furnished; and (v) contractor understands the Specification will comply with their requirements.
 - f. All materials and equipment furnished under this Contract will be of good quality and new, the Work will be performed in a skilled, high quality, and workmanlike manner, the Work will be free from defects not inherent in the quality required or permitted, and the Work will be performed and completed strictly in accordance with the requirements of this Contract.
 - g. Contractor will keep the project site and surrounding area free from accumulation of waste materials or rubbish caused by operations under this Contract, and will remove such items from the project site upon completion of the Work.



- h. Contractor has not, and will not, engage in transactions with, or provide resources or support to, individuals and organizations associated with terrorism, including those individuals or entities that appear on the Specially Designated Nationals and Blocked Persons List maintained by the U.S. Treasury (http://www.treasury.gov/resource-center/sanctions/SDN-List/Pages/default.aspx) or the United Nations Security designation list (http://www.un.org/sc/committees/1267/aq sanctions list.shtml).
- Contractor has not and will not offer or give any employee, agent, or representative of Mercy Corps anything of value to secure any business from Mercy Corps or influence such person to alter the terms, conditions, or performance of any contract with or purchase order from Mercy Corps, including but not limited to this Contract.
- j. Contractor will not and has not offered or provided any government official with any bribe in relation to this Contract or the Work.
- k. Contractor does not own, directly or indirectly, any other company that was competing for award of this Contract. Contractor did not seek or obtain confidential information related to the award of this Contract from any Mercy Corps employee, agent or representative. Contractor did not collude or conspire with any other individual or entity to limit competition for the award of this Contract, to set prices being offered or in any other way to interfere with free and open competition.
- 1. Contractor and its subcontractors are not owned in whole or in part, directly or indirectly, by any immediate or extended family member of any Mercy Corps employee, agent or representative, or, if so owned, Contractor fully disclosed such relationship and any potential conflict of interest has been waived, in writing, by Mercy Corps.
- m. Contractor has not engaged in, and will not engage in, any of the following conduct: (i) trafficking in persons (as defined in the Protocol to Prevent, Suppress, and Punish Trafficking in Persons, especially Women and Children, supplementing the UN Convention against Transnational Organized Crime); (ii) procuring a commercial sex act; or (iii) using forced labor.
- n. Contractor is not the subject or any governmental or donor investigation and has not been debarred or suspended by any government, governmental agency or donor.
- o. Contractor [or supplier] understands that it is subject to Mercy Corps' Child Safeguarding, Prevention of Sexual Exploitation and Abuse of Beneficiaries and Community Members, Anti-Trafficking and Sexual Misconduct policies (available https://www.mercycorps.org/who-we-are/ethics-policies). Contractor must report any violation or suspected violation of these policies in relation to the Contractor's activities under this contract to Mercy Corps, which may be done via its Integrity Hotline website (www.mercycorps.org/integrityhotline). Contractor will ensure that it has the capacity to abide by these policies, that its employees and subcontractors understand these policies, and that it communicates to its employees and subcontractors the duty to report. Contractor understands and agrees that a violation of these policies may, in addition to any other remedies available under this Contract or at law, result in suspension or immediate termination of this Contract and may also result in Contractor being deemed ineligible for future contracts with Mercy Corps.

11. Miscellaneous.



- a. This Contract may be amended or modified only by a written document signed by both parties. This Contract constitutes the entire contract between the parties regarding the work.
- b. Sections 8 and 10 will survive the termination of this Contract.

MERCY CORPS	THE CONTRACTOR
SIGN:	SIGN:
Name:	Name:
Title:	Title:
FINANCE REVIEW	
SIGN:	
Name:	
Title	

DONOR TERMS

Other Contract Provisions Required by Law or MC's Donor

A: ECHO General Conditions

Liability/Indemnity

Under no circumstances nor for any reason whatsoever will the European Commission be held liable for damages as a result of the work pursuant to this Contract.

Right of Access/ Audit

- (a) The Contractor will be responsible for holding all invoices, receipts and financial and accounting documents relating to this Contract for at least seven years following final payment made under this Contract.
- (b) The Contractor will allow Mercy Corps or the European Commission (or any other organization authorized by the European Commission) access to the location where the Contractor is based or any location where the Services are being implemented and to all documents, information and other material related to this Contract (including in electronic format), necessary to assess, or audit the implementation



of the project and compliance with this Contract. Such audit may take place at any time during this Contract and up to seven years following final payment made under this Contract.

Confidentiality

The Contractor acknowledges that Mercy Corps Nigeria has reporting obligations to the European Commission. Accordingly, the Contractor consents to Mercy Corps Nigeria sharing information about the Contractor or the Services with the European Commission as required.

Conflict of Interest

(a) The Contractor shall take all reasonable precautions to avoid any conflict of interests and shall inform MCS without delay of any situation constituting or likely to entail a conflict of interests.

There is a conflict of interests where the impartial and objective exercise of the functions, tasks and activities under this Contract is compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other shared interest with another person or party.

Anti-Corruption

The Parties recognize that Mercy Corps has a zero tolerance approach to bribery and corruption. The Contractor will comply with all relevant anti-bribery and anti-corruption laws (including the UK Bribery Act 2010) and comply with the principles of Mercy Corps Anti-Corruption and Anti-Bribery Policies, or equivalent policies, including: (a) not accepting or offering a bribe of facilitation payment; and (b) reporting immediately to Mercy Corps any bribery issues which the Contractor becomes aware of during this Contract; and, at the reasonable request of MCS, confirming in writing that they have complied with this Clause number and provide any information reasonably requested in support of such compliance.

Mercy Corps recognizes that in complying with this Clause number, the Contractor is not expected to risk life, limb or freedom.

B: DFID requires certain clauses and provisions to be included in all contracts;

Liability/Indemnity

The Solicitor acknowledges that DFID will not be held responsible for or in relation to the activities of the Solicitor under this Contract.

Right of Access/ Audit Access

The Solicitor shall permit Mercy Corps, its donor, DFID (UK), and/or the UK's National Audit Office and/or any of their duly authorized representatives, access to project sites and relevant records, including books, documents, papers (including in electronic format) for the purpose of monitoring, evaluation and audit. Such verification or audit may take place at any time during this Contract and up to seven years after final payment made under this Contract.

Anti-Corruption and Anti-Bribery



The parties recognize that Mercy Corps has a zero tolerance approach to bribery and corruption. The Solicitor will comply with all relevant anti-bribery and anti-corruption laws (including the UK Bribery Act 2010) and comply with the principles of Mercy Corps' Anti-Corruption and Anti-Bribery Policies, or equivalent policies, including: (a) not accepting or offering a bribe of facilitation payment; and (b) reporting immediately to Mercy Corps any bribery issues which the Solicitor becomes aware of during this Contract; and, at the reasonable request of Mercy Corps, confirming in writing that they have complied with this Section and provide any information reasonably requested in support of such compliance.

Cancelation of the contract

If any illegal or corrupt practices were or are committed in the award or execution of this Contract, including if any offer, gift, payment, contribution or benefit of any kind was accepted as an inducement or reward for the award or execution of this Contract, this Contract will be cancelled with immediate effect, in which case Mercy Corps will return to the Solicitor any items delivered and the Solicitor will return to Mercy Corps any funds paid (at each of their own cost, unless otherwise agreed).

Confidentiality

The Solicitor acknowledges that Mercy Corps has reporting obligations to DFID. Accordingly, the Solicitor consents to Mercy Corps sharing information about the Solicitor or the Services with the DFID as required.

Conflict of interest

The Solicitor shall take all reasonable precautions to avoid any conflict of interests and shall inform Mercy Corps without delay of any situation constituting or likely to entail a conflict of interests.

There is a conflict of interests where the impartial and objective exercise of the functions, tasks and activities under this Contract is compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other shared interest with another person or party.

Intellectual Property Rights

Mercy Corps shall be the owner of any product and/or copyrightable item that results from the performance of the Contract.

C: Child and Vulnerable Adults Protection Policy

Mercy Corps aims to safeguard children/vulnerable adults from abuse, violence and exploitation in all that we do, in line with Article 19* of United Nations Convention on the Rights of the Child.

Besides economic, social and political problems affecting large numbers of children/vulnerable adults in countries where Mercy Corps works, individuals may be at risk from abuse by adults or other children. This policy concerns maltreatment of a child/vulnerable adult in contact with a Mercy Corps team member. Mercy Corps' policy is to react sensitively to any suspicions or allegations and deal with them appropriately. Any team member who has suspicions of or has witnessed any form of inappropriate behavior as defined in this policy should immediately report it to the Country Director or Regional Program Director as appropriate and the UK HR Director or US HR Services Director.



Any employee who is accused of inappropriate behavior towards a child/vulnerable adult, regardless of whether this is within or outside the work context, will be immediately removed from contact with children/vulnerable adults in the work context while the incident is being investigated.

Any inappropriate behavior towards a child/vulnerable adult, regardless of whether this is within or outside the work context, could constitute gross misconduct and could result in termination of employment. Appropriate action will also be taken against partners and others engaged in our work.

Mercy Corps works in many situations which are inherently abusive to children/vulnerable adults, and in some situations it is unrealistic to intervene on a personal level in the lives of individuals who could be seen as suffering 'abuse' in the widest sense. Such concerns may be addressed more appropriately at a programmatic level. However, Mercy Corps team members may well have a professional duty to act where there are concerns in relation to children/vulnerable adults with whom they are in contact, directly or indirectly. Their ability to act may be severely limited by particular circumstances prevailing locally, but concerns must still be raised, and possible action considered.

Values and Principles in working with Children/Vulnerable Adults:

When team members are in contact with children/vulnerable adults, they should:

- At all times treat children/vulnerable adults with respect.
- Regard them positively and value them as individuals who have specific needs and rights and a particular contribution to make.
- Work with them in a spirit of co-operation and partnership based on mutual trust and respect; value their views and take them seriously
- Work with them in ways that enhance their inherent capacities and capabilities, and develop their potential
- Strive to understand them within the context in which they live.

It is important for all team members in contact with children/vulnerable adults to:

- Be aware of situations which may present risks and manage these risks.
- Plan and organize the work and the workplace so as to minimize risks as far as possible.
- Ensure that a culture of openness exists to enable any issues or concerns to be raised and discussed.
- Ensure that a sense of accountability exists between team members so that poor practice or potentially abusive behavior does not go unchallenged.

Team members must be especially aware of potential abusive situations when working with children.

Team members must never:

- Develop physical/sexual relationships with children
- Develop relationships with children which could in any way be deemed exploitative or abusive
- Act in ways that may be abusive or may place a child at risk of abuse.

Team members must avoid actions or behavior that could be construed as poor practice or potentially abusive. For example, they should never:

- Use language, make suggestions or offer advice which is inappropriate, offensive or abusive
- Behave physically in a manner toward children which is inappropriate or sexually provocative
- Have a child/children with whom they are working stay overnight at their home unsupervised



- Sleep in the same room or bed as a child with whom they are working
- Do things for children of an intimate personal nature that they can do for themselves
- Condone, or participate in, behavior toward children which is illegal, unsafe or abusive
- Act in ways intended to shame, humiliate, belittle or degrade children, or otherwise perpetrate any
 form of emotional abuse discriminate against, show differential treatment, or favor particular
 children to the exclusion of others

Prevention of Sexual Exploitation and Abuse Policy

All Mercy Corps team members must be aware of and adhere to the Core Principles laid out by the United Nations and INTERACTION in 2002, to which Mercy Corps is committed.

- 1. Sexual activity with children (persons under the age of 18, when not legally married) is prohibited regardless of the age of majority or age of consent locally. Mistaken belief in the age of a child is not a defense.
- 2. Exchange of money, employment, goods or services for sex, including sexual favors or other forms of humiliating, degrading or exploitative behavior is prohibited. This includes an exchange of assistance that is due to beneficiaries. Sexual acts with prostitutes are prohibited at any time during employment with Mercy Corps.
- Sexual relationships between expatriate humanitarian workers and beneficiaries are prohibited since they are based on inherently unequal power dynamics. Such relationships undermine the credibility and integrity of humanitarian aid work.
- 4. Where a humanitarian worker develops concerns or suspicions regarding sexual abuse or exploitation by a fellow worker, whether in the same agency or not, s/he must report such concerns via established agency reporting mechanisms.
- 5. Humanitarian workers are obliged to create and maintain an environment that prevents sexual exploitation and abuse and promotes the implementation of the code of conduct. Managers at all levels have particular responsibility to support and develop systems that maintain this environment.
- 6. Sexual exploitation and abuse by humanitarian workers constitute acts of gross misconduct and are therefore grounds for termination of employment

D: Other USAID Contract Provisions Required by Law

Mercy Corps, in accordance with donor regulations, requires certain certifications and provisions, set forth herein, to be included in all contracts.

- 1. The recipient must not engage in transactions with, or provide resources or support to, individuals and organizations associated with terrorism, including those individuals or entities that appear on the Specially Designated Nationals and Blocked Persons List maintained by the U.S. Treasury (online at: http://www.treasury.gov/resourcecenter/sanctions/SDNList/Pages/default.aspx) or the United Nations Security designation list (online at: http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml).
- 2. Contractor certifies that neither it nor its principals is presently excluded or disqualified from participation in this transaction by any US Government department or agency.
- 3. Contractor certifies that it will not and has not used any funds received directly or indirectly from the U.S. Government to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of U.S. Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining this Contract or any other U.S. government funded project.



- 4. Mercy Corps, USAID, and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of Contractor which are directly pertinent to this Contract for the purpose of making audits, examinations, excerpts and transcriptions.
- 5. The Contractor or its employees, or any Subcontractor or its employees, must not engage in any of the following conduct:
 - (i) Trafficking in persons (as defined in the Protocol to Prevent, Suppress, and Punish Trafficking in Persons, especially Women and Children, supplementing the UN Convention against Transnational Organized Crime) during the period of this Contract;
 - (ii) Procure a commercial sex act during the period of this Contract;
 - (iii) Use forced labor in the performance of the Contract; or
 - (iv) Commit acts that directly support or advance trafficking in persons, including the following acts:
 - a. Destroying, concealing, confiscating, or otherwise denying an employee access to that employee's identity or immigration documents;
 - b. Failing to provide return transportation or pay for return transportation costs to an employee from a country outside the United States to the country from which the employee was recruited upon the end of employment if requested by the employee, unless:
 - exempted from the requirement to provide or pay for such return transportation by Mercy Corps under this award; or
 - the employee is a victim of human trafficking seeking victim services or legal redres in the country of employment or a witness in a human trafficking enforcement action;
 - c. Soliciting a person for the purpose of employment, or offering employment, by means of materially false or fraudulent pretenses, representations, or promises regarding that employment;
 - d. Charging employees recruitment fees; or
 - e. Providing or arranging housing that fails to meet the host country housing and safety standards. Contractor agrees to report in a timely manner to Mercy Corps any credible information from any source that alleges the contractor or any sub-contractor has engaged in any of the prohibited activities identified in this provision.
- 6. The Contractor must inform its employees working under this contract in the predominant native language of the workforce that they are afforded the employee whistleblower rights and protections provided under 41 U.S.C. § 4712; and



7. Contractor must disclose, in a timely manner, in writing to the USAID Office of Inspector General and Mercy Corps all violations of US government criminal law involving fraud, bribery or gratuity violations potentially affecting this Contract.

Disclosures to USAID must be sent to: U.S. Agency for International Development Office of the Inspector General P.O. Box 657 Washington, DC 200044-0657

Phone: 1-800-230-6539 or 202-712-1023

Email: ig.hotline@usaid.gov

URL: https://oig.usaid.gov/content/usaid-contractor-reporting-form

- 8. The Contractor agrees to incorporate the terms of "Annex C" word-for-word in all of its sub-contracts funded under this Contract, if any.
- 9. Department of State Annex C [For Contracts to Be Performed Outside of the U.S.]

E: Other DOS Contract Provisions Required by Law

Mercy Corps, in accordance with donor regulations, requires certain certifications and provisions, set forth herein, to be included in all contracts.

- The Contractor is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of the Contractor to ensure compliance with these Executive Orders and laws.
- 2. Contractor certifies that neither it nor its principals is presently excluded or disqualified from participation in this transaction by any US Government department or agency.
- 3. Contractor certifies that it will not and has not used any funds received directly or indirectly from the U.S. Government has been paid or will be paid to any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of U.S. Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining this Contract or any other U.S. government funded project.
- 4. Mercy Corps, the US Department of State, the Inspector General of the United States, and the Comptroller General of the United States, or any of their duly authorized representatives have the right of timely and unrestricted access to any books, documents, papers and records of Contractor that are pertinent to this Contract, in order to make audits, examinations, excerpts and transcripts and copies of such documents. This right also includes timely and reasonable access to a Contractor's personnel for the purpose of interview and discussion related to such documents.
- 5. The U.S. Government is opposed to prostitution and related activities, which are inherently harmful and dehumanizing, and contribute to the phenomenon of trafficking in persons. None of the funds made available under this contract may be used to promote, support, or advocate for the legalization or practice of prostitution. Nothing in the preceding sentence shall be construed to preclude assistance designed to ameliorate the suffering of, or health risks to, victims while they are being



trafficked or after they are out of the situation that resulted from such victims being trafficked. The Contractor does not promote, support, or advocate the legalization or practice of prostitution.

- 6. Mercy Corps has the right to terminate this Contract, without penalty, if Contractor or its employees, or any Subcontractor or its employees, engage in any of the following conduct:
 - (i) Trafficking in persons (as defined in the Protocol to Prevent, Suppress, and Punish Trafficking in Persons, especially Women and Children, supplementing the UN Convention against Transnational Organized Crime) during the period of this Contract;
 - (ii) Procure a commercial sex act during the period of time that this Contract is in effect; or
 - (iii) Use forced labor in the performance of the Contract.
- 7. The Contractor agrees to incorporate the terms of "Annex E" word-for-word in all of its sub-contracts funded under this Contract, if any.

F: Other Contract Provisions Required by Law or European Union

MERCY CORPS has received funding from the European Union. MERCY CORPS, in accordance with the European Union regulations under which this contract is executed, requires certain certifications and provisions, set forth herein, to be included in all contracts.

Liability/Indemnity

Under no circumstances nor for any reason whatsoever will the European Union be held liable for damages as a result of the work pursuant to this Contract.

Right of Access/ Audit

- (c) The Vendor will be responsible for holding all invoices, receipts and financial and accounting documents relating to this Contract for at least seven years following final payment made under this Contract.
- (d) The Vendor will allow MERCY CORPS or the European Union (or any other organisation authorised by the European Union) access to the location where the Vendor is based or any location where the Services are being implemented and to all documents, information and other material related to this Contract (including in electronic format), necessary to assess, or audit the implementation of the project and compliance with this Contract. Such audit may take place at any time during this Contract and up to seven years following final payment made under this Contract.

Conflict of Interest

The Contractor shall take all reasonable precautions to avoid any conflict of interests and shall inform MCS without delay of any situation constituting or likely to entail a conflict of interests. There is a conflict of interests where the impartial and objective exercise of the functions, tasks and activities under this Contract is compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other shared interest with another person or party.

Confidentiality



The Vendor acknowledges that MERCY CORPS has reporting obligations to the European Union. Accordingly, the Vendor consents to MERCY CORPS sharing information about the Vendor or the Services with the European Union as required.

Anti-corruption

The Parties recognize that MERCY CORPS has a zero tolerance approach to bribery and corruption. The Vendor will comply with all relevant anti-bribery and anti-corruption laws (including the UK Bribery Act 2010) and comply with the principles of MERCY CORPS Anti-Corruption and Anti-Bribery Policies, or equivalent policies, including: (a) not accepting or offering a bribe of facilitation payment; and (b) reporting immediately to MERCY CORPS any bribery issues which the Vendor becomes aware of during this Contract; and, at the reasonable request of MERCY CORPS, confirming in writing that they have complied with this Clause and provide any information reasonably requested in support of such compliance.

MERCY CORPS recognizes that in complying with this Clause, the Vendor is not expected to risk life, limb or freedom.

Visibility

Any information or publications, in any form and medium, including the Internet, published pursuant to this Contract must include the following text or a similar disclaimer: "This document has been produced with the financial assistance of the European Union. The views expressed herein should not be taken, in any way, to reflect the official opinion of the European Union.

Principal of Ethical Procurement

The Vendor acknowledges that MERCY CORPS must comply with the European Union's principle of Ethical Procurement including adhering to the minimum ethical standards of the avoidance of child labour, and the respect of basic social rights and working conditions based on international labour standards.

Intellectual Property Rights

MCS shall be the owner of any [product copyrightable, patentable item] that results from the performance of the Contract. The Contractor grants the right to MCS and the European Commission to use freely and as it sees fit all documents produced under this Contract, whatever their form or medium.

Procurement:

If the Contractor will also carry out procurement (e.g. for travel or supplies), please contact MCS Compliance.

G: Other USDA Contract Provisions Required by Law

Mercy Corps, in accordance with donor regulations, requires certain certifications and provisions, set forth herein, to be included in all contracts.

1. The Contractor is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with



- terrorism. It is the legal responsibility of the Contractor to ensure compliance with these Executive Orders and laws.
- 2. Contractor certifies that neither it nor its principals is presently excluded or disqualified from participation in this transaction by any US Government department or agency.
- 3. Contractor certifies that it will not and has not used any funds received directly or indirectly from the U.S. Government has been paid or will be paid to any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of U.S. Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining this Contract or any other U.S. government funded project.
- 4. Mercy Corps, the US Department of Agriculture, the Inspector General of the United States, and the Comptroller General of the United States, or any of their duly authorized representatives have the right of timely and unrestricted access to any books, documents, papers and records of Contractor that are pertinent to this Contract, in order to make audits, examinations, excerpts and transcripts and copies of such documents. This right also includes timely and reasonable access to a Contractor's personnel for the purpose of interview and discussion related to such documents.
- 5. Mercy Corps has the right to terminate this Contract, without penalty, if Contractor or its employees, or any Subcontractor or its employees, engage in any of the following conduct:
 - (i) Trafficking in persons (as defined in the Protocol to Prevent, Suppress, and Punish Trafficking in Persons, especially Women and Children, supplementing the UN Convention against Transnational Organized Crime) during the period of this Contract;
 - (ii) Procure a commercial sex act during the period of time that this Contract is in effect; or
 - (iii) Use forced labor in the performance of the Contract.
- 6. The Contractor agrees to incorporate the terms of "Donors" word-for-word in all of its sub-contracts funded under this Contract, if any.

H: Reporting of currency and cash-based transaction required under Nigerian laws.

- 1. The special control unit against money laundering (SCUML) as well as Federal Ministry of Industry, trade and investment, in line with the provision of the "Money Laundering (Prohibition) Act (TPA)" 2011 (as amended) and Federal Ministry of Industry, Trade and Investment (designation of Non-Financial institutions) 2013 and 2016 respectively, requires designated non-financial institutions to report all currency transactions of N5,000,000 and above, in case of an individual or N10,000,000 and above, in the case of a body corporate within seven (7) days from the date of transaction.
- 2. The laws also require designated non-financial institutions to report all cash-based transactions in excess of \$1,000 or its equivalent within seven (7) days to SCUML through its online platform.
- 3. Accordingly, Mercy Corps, being a registered and designated non-financial institution, incompliance with above requirements in clause a and b of this document is obliged to report all transaction to SCUML.
- 4. By signing this document, the vendor/contractor/service provider unconditionally allows Mercy Corps to share necessary data and documents with SCUML and the "Economic and Financial Crimes Commission (EFCC).
- 5. Vendor/contractor/service provider also agrees to allow SCUML and EFCC the unconditional access to his bank account(s), account books and daily ledger with regard to the amount paid against this contract.



ANNEXES

Annex 1 – Bill of Quantity (BoQ)

BILL OF QUANTITY FOR DRILLING OF BOREHOLE AND INSTALLATION OF SOLAR SCHEME IN BUSO COMMUNITY, BORRONG WARD, DEMSA LGA, ADAMAWA STATE

COST SUMMARY

Preamble

This bill of quantities is for the construction of 1 No. borehole complete with submersible pump, solar system and fencing point in Buso community, Borrong Ward, Demsa LGA, Adamawa State. The coordinate point of the geophysical investigation is: 09°34'32.06"N, 12°08'37.66"E

DESCRIPTION	Comment	AMOUNT (N)
Borehole Drilling		
Supply and installation of solar pump		
Supply and installation of solar powered system		
Supply and installation of 20,000 litres PVC (4N0s of 5000L capacity) tanks on 9m high steel stanchion		
Construction of 1 tap stand, 1 soak pit, and 1 animal trough		
Security fencing and landscaping		
Total		

BOREHOLE DRILLING				
DESCRIPTION	Unit	Qty	Rate	Amount
SITE CLEARING AND MOBILIZATION		I		L
Mobilization of drilling rigs and necessary tools, equipment, and machines to site	Item	1		
DRILLING				
Using 8-inch diameter bit with Percussion or rotary drill method by using appropriate rigs, cutter, pipes, machine, and other equipment capable of drilling up to a depth up to 80 meters (depending on the availability of appropriate soil layer) through all sorts of strata. Protection of caving by supplying necessary casing pipe, collection of soil samples at every change of strata and preserve them for analysis, withdrawal of boring & casing pipes etc.	M	100		
CASING				
Provide and install 150mm diameter internal casing uPVC not less than 15bars (Panar or equivalent) type as per specification	N0	35		
Provide and install 150mm diameter Screen uPVC not less than 15 bars (Panar or equivalent) slot size 0.5-1.0mm (factory slotted)	M	33		



GRAVEL PACKING			
Provision of suitable gravel pack to fill the annular space between the sides of the borehole and the screen. The gravel pack grain sizes are to be defined by the grain size of the aquifer and can ranged from 2-4mm in diameter. Reasonably homogenous, calibrated, clean from debris, round and preferably siliceous available from riverbed, free from soil and other materials, including supply, delivery, casting and cleaning. Enough gravel pack shall be installed to completely cover the uppermost screen and yonder by an additional 2-metres to allow for settling. A good supply of water should be introduced with the gravel to prevent bridging. The gravel pack shall be capped with a 2-metre vertical column of clay seal to prevent any seepage that may contaminate aquifers with subsequent pollution of ground water **GROUTING**	LS	1	
Grouting with clay or with a mixture of bentonite and cement.	M	10	
The first clay grout of 2 meters length must be placed on top of the gravel pack to stop the grout from plugging the gravel pack. Including supply, delivery, fitting and fixing. Clay back filling for the intermediate space between the clay plug and the concrete plug, fill up with sand and clay. The last 2 meters should be filled up with a mixture of water and cement grout up to the ground level. The procedure involves filling the annular space up to the ground level and then leaving to set for a minimum of 12 hours before starting further development; all costs including supply, delivery, casting and cleaning.			
BOREHOLE DEVELOPMENT			
The service provider shall carry out development and cleaning of borehole by airlifting and air jetting methods upon completion of installation of casing and gravel pack. This shall be done to remove silts, clays and fluid residues deposited on the borehole wall and adjacent portions of the aquifer during the rehabilitation process. The service provider should make arrangement of water level measuring kits including transportation of air compressor unit to site (For the purpose of air compressor of evaluation 24 hrs is considered)	Item	1	
TEST PUMPING		<u>I</u>	
Establish borehole parameters by test pumping the borehole for 12 hours and provide borehole data such as yield, draw-down. The following elements will be contained in the test pumping. a) A period of recovery after production pumping/development. b) A pre-test (calibration, typically 2 to 3 hours); c) A period of recovery after pre-test	Item	1	



d) A step draw-down test (typically five steps, each of 2 hours duration; total 10 hours);e) A period of recovery after step draw-down test				
WATER QUALITY TEST			•	
A minimum of 2 litres each for chemical and bacteriological analysis shall be collected by the contractor in the presence of the Engineer or his representative. (3) Water samples should be collected in clean, sterilized properly sealed and protected plastic containers from the borehole for reference to a Water Testing Authority recognized and authorized by Mercy Corps for laboratory analysis, after completion of test pumping. One sample will be used for each of these tests: physical, chemical and bacteriological analyses. The samples so collected should reach the authorized Water Testing Laboratories (Ministry of Water Resources and National Agency for Food and Drug Law and Control (NAFDAC)), within 6 hours from the time of collection from the borehole unless otherwise. Specific parameters to be measured shall include. • Physical Parameters — Colour, Odour, Taste, Turbidity, pH Value, Electrical Conductivity, Temperature • Chemical Parameters — Nitrate, Nitrite, Total Hardness, Fluoride, Chloride, Sulphate, Copper, Manganese, TDS, Total Iron, Arsenic • Biological Parameters — Faecal Coli form Counts	No	1		
BOREHOLE COMPLETION REPORT				
A full borehole completion report shall be prepared by the service provided and submitted to the Mercy Corps within ten days of the completion of the pumping tests. The borehole completion report shall include the following: a. A borehole log, showing borehole location, ground surface elevation, measuring point elevation, soil strata, static water level and dimensions of casing, screen, grounding and cap. b. Pumping tests reports c. Result of analysis of water d. All other records as specified	Report	1		
BOREHOLE CLEANING AND DISINFECTION				
Provide for the disinfection of well by introducing granular Calcium Hypochlorite or Sodium Hypochlorite into the annular space along with the gravel pack material at a concentration of 500grammes per cubic meter of pack.	LS	1		
SANITARY SEAL AND CAPPING	N.T.	4	1	Г
To provide an effective seal to the entry of contaminants, up to 3.0-metres depth of the borehole from the surface shall be grouted using cement slurry 1.85-2.15 kg / liter	No	1		



For Sanitary seal and well head construction, the top of the casing shall be a minimum of 0.5m above the original ground level and there shall be a flange for connection of the wellhead assembly. The conductor pipe (surface casing) around the inner casing shall be raised at least 30 cm above the inner casing and then capped properly by welding 6mm \emptyset thick 8-inch steel plate to secure the well. Around the casing, there shall be a 1.5m x			
1.5m x 1m concrete slab.			
Sub Total			

SUPPLY AND INSTALLATION OF SOLAR PUMP			
DESCRIPTION	Unit	Qty	
Supply and install 2.2 Kw, (70-100m head depending on yield of borehole), hybrid inverter type or approved equivalent + Pumping Machine	No	1	
Provision for the well head including air valve, sluice valve, non-return valve, meter and support anchor as directed by the Engineer	Item	1	
Sub Total			

SUPPLY AND INSTALLATION OF SOLAR POWERED SYSTEM			
DESCRIPTION	Unit	Qty	
Solar photovoltaic panels (10), 240-300 watts "Siemens" or approved equivalent, complete with accessories, to be executed in whole or part all installed steel frames above ground	Item	1	
Drop cable HT-TKN-F	m	60	
Supply and install 32mm diameter rising main GMS water pipe, Class C.	m	60	
50mm diameter gate valve as 'pegler' or approved equivalent	No	1	
Sub Total			

SUPPLY AND INSTALLATION OF 20M³ OVERHEAD TANK			
DESCRIPTION	Unit	Qty	
Supply and Installation of 4 No. 5 cubic meters black PVC tank installed on 6 meters above the ground steel stanchion with 50mm outlet pipe, gate valves, water gauge and float valves. Provide for disinfection of the tanks after installation. Provide steel name plate branded with Mercy Corps logo.		1	

CONSTRUCTION OF TAP STAND, SOAK PIT, AND			
ANIMAL TORUGH	Unit	Qty	



Provide for water distribution network 1 tapstand with 6 taps each complete with concrete slab and 1 soak pit1 according to	No	1	
specification and design as attached. Construct using 9" sandcrete blocks animal water trough (2.5m			
x 4m x 0.9m deep) linked to the fetching point 50m apart to collect wastewater during and after fetching as per attached			
design.			

SECURITY FENCING AND LANDSCAPING			
DESCRIPTION	Unit	Qty	
Provide and fix perimeter fence, complete with gate and lock			
according to specification as provided in drawings.	LS	1	
Landscape fenced area and finish with 12/15mm granite			
chippings	LS	1	
Sub Total			

NOTE

- It is necessary for the Contractor to make an on-site verification of the actual requirements of the construction works before its implementation. Bill of quantities, work items, measurements and other related works are subject to change, all discrepancies must be reported immediately to Mercy Corps representative and shall be concurred before proceeding with the works.
- ➤ The quantity and total amount of works in serial number 3 to 8 is non-exhaustive and just for an indication of the highest possible amount to be paid based on these quantities. The actual amount will be based on the quantity of work achieved in the field, as approved by Mercy Corps field representative.



Price Offer Sheet				MERCY CORPS
Item Description	Quantity	Unit of Measure	Unit Price	Total Price
The Drilling of Borehole, Installation of Submersible Pump, and Solar System in Buso Community, Borrong Ward, Demsa LGA, Adamawa State	1	Unit		
As Per Attached BOQ				
Total before tax:				
VAT (if applicable)				
Total:				
Company Name:				
Name of Representative:				
Title:				
Signature:				
Date:				
Tender #:	NIG/YOL	/TEN24		



A; If the contractor wishes to use a reporting format different from the templates annexed below; authority will have to be sought from MC for review before use

Annex 2 Test Pumping; Step Draw Down

PU	MP TEST - STEP DRAW DOWN T	TEST REPORT						
Camp;	Coordinate: N	E						
STEP 1:	Discharge s							
TIME ELAPSED (In	DEPTH TO WATER LEVEL	DRAWDOWN	DEMARKS					
Minutes)	(Meters)	(In meters)	REMARKS					
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
15								
20								
25								
30								
40								
50								
60								
STEP 2:	Discharge set at (Lite	Discharge set at (Liters/Second):						
TIME ELAPSED (In	DEPTH TO WATER LEVEL	DRAWDOWN	REMARKS					
Minutes)	(Meters)	(In meters)	KEWIAKKS					
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								



15	1		1 1
20			
25			
30			
40			
50			
60			
STEP 3:	Discharge set at (Liter	rs/Second):	
TIME ELAPSED (In	DEPTH TO WATER LEVEL	DRAWDOWN	
Minutes)	(Meters)	(In meters)	REMARKS
(20 MINUTES)	(Netters)	(III IIIevers)	
(20111110120)			
0			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
15			
20			
25			
30			
40			
50			
60			
Pump Supervisor Sign	Drilling Supervisor Sign		Drilling Manager Sign



Annex 3 Test Pumping; Constant Discharge

PUMP TEST - 4 HOURS AQUIFER TEST						
Coord	inate: N		Camp:	Date: Start Time End Time		
S.NO	TIME ELAPSED IN MINUTES	DRAWDOWN (METERS)	YIELD (LTR / SEC)	REMARKS		
1	0					
2	1					
3	2					
4	3					
5	4					
6	5					
7	6					
8	7					
9	8					
10	9					
11	10					
12	15					
13	20					
14	25					
15	30					
16	35					
17	40					
18	50					
19	60					
20	70					
21	80					
22	90					
23	105					
24	120					
25	135					
26	150					
27	165					
28	180					
29	195					
30	210					
31	225					
32	240					



33	260		
34	280		
35	300		
36	330		
37	360		
38	390		
39	420		
40	450		
41	480		
42	510		
43	540		
44	600		
45	660		
46	720		
47	780		
48	840		
49	900		
50	960		
Pum	p Supervisor Sign	Drilling Superviso	or Sign Drilling Manager Sign

Annex 4 Recovery Measurements

	BOREHOLE - RECOVERY TEST							
Coordinate: N E			Camp:	Date Start Time End Time				
S.N O	TIME ELAPSED IN MINUTES	DRAWDO WN (METERS)	YIELD (LTR/ SEC)	REMARKS				
1	0							
2	1							
3	2							
4	3							
5	4							
6	5							



7	6		
8	7		
9	8		
10	9		
11	10		
12	15		
13	20		
14	25		
15	30		
16	35		
17	40		
18	45		
19	50		
20	55		
21	60		
22	70		
23	80		
24	90		
25	100		
26	120		
27	140		
28	160		
29	180		
30	240		
	Pump Supervisor	Drilling Supervisor	Drilling Manager



Annex 5: Borehole Log Sheet

Borehole Litho log and drill time log with water strike zones													
Drilling Company:													
Camp Borehole Number													
GPS													
Coordinate													
Water	Litho-logical Lo	g	Dept	oth in			Dr	ill T	ime l	Log			
strikes	Cuand Cuntage		Met	ters									
	Ground Surface	d Surface Minutes per meter drilled					rilled						
						•							
					B								
					0								
					R								
					E H								
					0								
					L								
					E								
					_								
					В								
					0								
					R								
					E								
					H								
					0								
					L								
					E								



Annex 6 Borehole Completion Record

Borehole No					
BC	renote Name				
	Community, Ward				
2.	Owner; Address Locality; L.R No Intended Use; Public W.S; Irrigation; Domestic; Livestock; Other				
3.	Contactor/Driller				
4.	Type of Borehole; Drilled; Driven; Bored; Jetted; Other				
	Type & Make of the drilling Rig				
	Borehole Design & Construction (Sketch to accompany) Drilling Started; Drilling Completed				
	All work completed				
	Total Depth: Reportedm; Measuredm; Final (Backfilled) Depth;m				
	Hole Diameter mm From m to m				
	Permanent Casing: Plain: Type; Diamm; Lengthm; Fromm tom Type; Diamm; Lengthm; Fromm tom Type; Diamm; Lengthm; Fromm tom Type; Diamm; Lengthm; Fromm tom				
,	Screen:				
	Type & Make				
	Diametermm; Lengthm Set fromm tom				
	Gravel Pack:				



Size of grainsmm, Roundness (Good, Fair, Poor)
Volume inserted to the annular spacecu.m, fromm tom
6. Aquifer: 1st Water Struck atm.; Water rest levelm
Main Aquifer struck atm.; Water rest levelm
Water bearing material, fromm tom
Other Aquifers, Remark etc
7. Yield: SWLm.; DWLm. below GL; DischargeLtrs/min
after pumpingHrs; Recovered to SWL inMinutes;
Recommended production dischargeLtrs/Hr, with pump set at
8. Borehole Development Start Finish Hrs Hrs
- All depth measurements to be in Metres below GL
Description
Date of Test (Day, Month, Year)
Depth of BH at time of test (m)
Static Water Level (SWL) before test (m)
Type of Pump used
Depth of Pump Intake (m)
Discharge (Ltrs/Minute)
Dynamic/Pumping water level (m)
After Pumping continuously for (Hrs)
Time of recovery to original SWL (Minutes)
Rate of Recovery – WL after 5 Minutes (m)
WL after 20 Minutes (m)
WL after 60 Minutes (m)
WL after 180 Minutes (m)
WL after 360 Minutes (m)
Additional pumping tests to be mentioned in Remarks
10. Quality of Water: (Water Quality Test Certificates to accompany)
Sample (Yes/No) collected at
Sediment, Taste, Odour,
Colour; Specific conductivityµmho/cu. m;
Temperature°C
11. Remarks: (Drilling difficulties, gravel pack details, all pertinent information about drilling and completion of the Borehole)



12. Sketch of Borehole Construction

(Sketch to include depth, & changes of hole diameter; casing positions, manner of casings (if different diameters), connections, and casing connection to the screen; depths of screen, how casing is closed at the bottom, formation caving zones and any other pertinent information