## General information معلومات عمومی

|  |  |
| --- | --- |
| **FCDO – Driving Action for Wellbeing to Avert Mortality (DAWAM) Project**  **تلاش برای رفا و کاهش مرگ و میر** | |
|  | |
| **Administration of survey** | **مدیریت سروی** |
| Name of province: | Ghor |
| Name of district: | Ferozkoh |
| Name of health center | Lafrah |
| Health Center Type: please select one ( H3, CHC, BHC, SHC) | SHC |
| Building ownership (private or governmental) | Government |
| Number of clinic personnel | 9 |
| Number of patients visited in clinic (daily basis) | 90 |
| Number of hospitalized patients (the max capacity) | N/A |
| Name of surveyor(s) | Gh.Farogh |
| DATE of survey | 31-May-2024 |

## Description of workتشریح کار

|  |  |  |  |
| --- | --- | --- | --- |
| **Scope of intervention**  **عرصه حمایت** | | **All three components require major maintenance:** | |
| **Perimeter protection** | | The provision and improvement of Water, Sanitation, and Hygiene (WASH) facilities play a pivotal role in safeguarding human health and overall well-being. These initiatives serve multifaceted purposes, ranging from the prevention of waterborne and diarrheal diseases to the control of vector-borne illnesses. Additionally, they contribute to the enhancement of health and nutrition outcomes, mitigate the risk of epidemics, and foster dignity and safety among communities. Economically, investing in WASH facilities yields significant benefits, while also ensuring environmental protection and alignment with international sustainability and health standards.  To enhance the capacity of healthcare workers to uphold hygiene standards, ActionAid is committed to revitalizing and improving existing Water, Sanitation, and Hygiene (WASH) facilities in targeted Healthcare Facilities (HCFs). Additionally, we aim to construct a water supply network for the Lafrah community adjacent to the Lafrah HCF. | |
| **Clinic map** نقشه کلینیک | | | |
| GPS of HCF: Please collect the GPS related HCF building جی پی اس نقاط کلیدی: لطفا جی پی کلنیک مربوطه را بگیرید: | | | |
| 1 | N: 35 7'44” | | E: 64 41'17” |
| Please draw a freehand sketch of the HCF facility; point out : Main building – Sanitation facilities, water source , waste disposal site ) | | | |
|  | | | |

## Project feasibilityامکان پذیری پروژه

|  |  |  |
| --- | --- | --- |
| **Parameters inspection and findings**  **بررسی پارامترها و یافته ها** | Background information: Health facility services are a fundamental right for every individual. However, communities in the catchment area of Lafrah face significant challenges due to their distance from the center of Ferozkoh District. The Lafrah Sub-Health Center (SHC) currently operates in a rental building but plans to shift to a new building once its rehabilitation is complete. In 2024, through the collaboration and contribution of the local community, a new healthcare facility was constructed using locally available materials such as mud.  The SHC is staffed by a team of nine personnel: a male nurse, a female midwife doctor, two male vaccinators, a female nutrition consultant, a female distributor for nutrition items, a Community Health Supervisor (CHS), a male cleaner, and a male guard. This facility is situated in Lafrah, 155 kilometers away from Ferozkoh District, and serves approximately 90 outpatients daily, comprising 38 males, 47 females, and 5 persons with disabilities (2 males and 3 females).  The primary challenge for both the community and the SHC is the lack of clean water and adequate sanitation services, which contribute to the spread of diseases. Lafrah HCF and the community are located in the highlands, where they lack access to safe drinking water. The residents collect and store rainwater and snowmelt in pits during the rainy season for drinking, but this supply is neither sufficient nor clean.  In 2022, a solar-powered water supply system was established in collaboration with the local community. This system draws water from a spring at the bottom of the valley, at a depth of 130 meters, to an existing reservoir located 1,352 meters from the Lafrah community and 190 meters lower in elevation. However, the current method of transporting water from the reservoir to homes and the SHC relies on animals and is unreliable due to the use of local construction methods rather than proper technical construction.  The lack of water severely impacts the operations of the Lafrah community and the SHC, affecting the health and well-being of both staff and patients. Issues Identified: Following a technical survey conducted by the ActionAid office, the main problems identified at the Lafrah SHC are as follows:  - The building and community lack access to a clean water source.  - The building does not have a water supply, wastewater system, or septic tank.  - The dry latrines need to be replaced with a toilet system that includes a flush tank.  - There is no stable handwashing facility in the clinic rooms.  - The SHC lacks a septic tank.  - The OPD room, M.C.H. room, vaccination room, nutrition room, delivery room, hall, and all baths and toilets do not have floor drains, tiles, or ceramics. Additionally, the delivery room lacks an adjacent bath and toilet. The building does not have any available water source. Addressing these issues is critical to improving the hygiene standards and overall health outcomes for the Lafrah community and the staff at the SHC.Water source Currently, the water for this health center is transported from a source 1.35 kilometers away using animals and jerry cans. This method only provides enough drinking water for the staff of the Sub Health Center (SHC). During winter, snow makes it even more difficult to bring water from this distance. There is no water source available for clinical use.  The lack of water is the biggest issue facing the community and the SHC, severely impacting operations and the well-being of both staff and patients. Water storage and distributionWater Tanks The community has constructed a solar-powered water supply system with a 4 cubic meter reservoir. However, the structure is weak due to poor and local construction methods. Additionally, the sub-health center lacks a proper water storage tank, forcing clinic staff to store drinking water in 20-liter jerry cans. These jerry cans are inadequate and unsuitable for the clinic's needs. **Water reticulation outside the compounds****Hand washing** There are no washing sinks or other facilities available in the HCF due to the lack of water. **Bathroom** There are two bathrooms inside the building However, it does not have bath fixtures such as a shower or floor drain even the floor of this bath is not covered with tiles and ceramic. It was built locally and during bathing, clinic staff use a jerry can. Additionally, this bathroom is not connected to a septic tank. The drain water from the bathroom falls close to the wall, which can cause damage to the wall.  **Toilets and latrines** There are currently two single latrines at the clinic, but no proper toilets are available.  The latrines are locally constructed and lack modern toilet facilities.  The interior surfaces of the latrines, including the walls and floors, are neither washable nor easy to clean.  There is no access to water in the latrines.  The latrines are not equipped with facilities to accommodate persons with disabilities (PWDs). **Kitchen** The kitchen consists of a single room that lacks essential facilities.  There are no dishwashing sinks, cabinets, or floor drains.  The floor is not covered with ceramic tiles, making it difficult to clean. **Septic Tank:**  The sub-health center has no septic tank because the existing latrines are dry pit latrines. **Waste management**  The following process and system for solid waste collection and disposal are in place at the Lafrah Healthcare Center: **Waste collection and separation:** Lafrah HCF doesn’t have an incinerator and pits to dispose of the waste in separate pits they burn the waste traditionally a bit far from the HCF building in the hell which is not safe and sometimes the wind and rain bring the ashes close to the clinic and community. They excavate the hell 50cm to 1m depth then they bury the sharp waste and organic waste together in this pit and then for new waste they do the same which is not safe and this practice is very harmful.  According to WHO’s requirements, the environment must be protected against clinical hazardous waste and also should be secure from domestic waste generated within healthcare facilities. For the safe disposal of the waste, we should have a proper waste disposal system which should have an incinerator with three pits (for sharp waste and organic waste).  All types of solid waste are not separately stored and collected, the available bins are of low quality and insufficient to handle the daily volume of disposed waste. | |
| **Technical solution in compliance with MoPH/WHO standards**  **راه حل تخنیکی مطابق ستندرد های وزارت صحت عامه وسازمان صحی جهان** | Water source Quantity Perspective: The Lafrah Sub Health Center (SHC) faces significant challenges due to a lack of water. To address this issue, ActionAid plans to construct two reservoirs: one with a capacity of 17.5 cubic meters and another with a capacity of 4 cubic meters. Four stand taps will be installed in different parts of the community. The taps located near the first reservoir (4 cubic meters) will be connected directly to it. Additionally, 20 solar panels (PROPSOLAR 270W Polycrystalline, 37.9V, 9.22A) and two electric submersible pumps, which provide 1.2 liters per second, will be installed to meet the water demand of the community and the health care facility.  Quality Perspective: ActionAid is committed to ensuring that the water from the Spring meets the highest standards of quality. As part of this effort, water quality testing will be conducted during the drilling process to ensure compliance with the WHO water quality standards. The results of the water analysis will be documented and included in the table below.   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Parameters | Turbidity (NTU | Color | Odor | Water Temperature | TTC (CFU/100ml | PH | TDS | Arsenic | | WHO Guideline | <5 NTU | None Detected | Not Offensive | 25C° - 30C° | 0/100ml | 6.5 to 8.5 | 1000 ppm | 10µg/l | | Lab Result |  |  |  |  |  |  |  |  |  Water storage and distributionWater tank (water availability)  |  |  | | --- | --- | | **WHO suggested minimum water quantities in health care facilities** | | | Use | Guideline quantity | | Outpatients | 5 liters/consultation | | In patients | 40–60 liters/patient/day | | Operating theatre/maternity | 100 liters/intervention | | Dry or supplementary feeding center | 0.5–5 liters/consultation | | Wet supplementary feeding center | 15 liters/consultation | | Inpatient Therapeutic Feeding Center | 30 liters/patient/day | | Cholera treatment center | 60 liters/patient/day | | Severe Acute Respiratory Diseases Isolation Center | 100 liters/patient/day | | Viral hemorrhagic fever isolation center | 300–400 liters/patient/day |  |  |  |  |  | | --- | --- | --- | --- | | **Total daily water demand of Lafrah Health Care Center** | | | | | Type of user | # of user | Consumption norm (Liters /day) | Total daily demand | | Outpatients | 90 | 5 | 450 | | clinic personnel | 9 | 110 | 990 | | Total daily water need | | | 1440 | | Required water for 48 hours to avoid any shortage | | | 2880 |   To ensure an uninterrupted water supply for at least 48 hours, adequate storage capacity is essential. Based on our calculations, we recommend installing two water tanks with capacities of 2000 liters and 1000 liters.  These tanks are factory-made from high-density polyethylene, ensuring durability, lightness, and ease of handling. Their perfectly smooth inner surfaces allow for easy cleaning with traditional detergents. Each tank comes with a top screwed lid and includes all necessary accessories and fittings.  The water tanks will be integrated into the new water supply system, serving both the building and the toilet facilities.   * 1. ***Availability:***   To ensure the availability of potable water at each user point 24 hours a day, ActionAid will design a water supply system that combines motorized and gravitational forces. The first electronic submersible pump will transfer water from the collection box to reservoir #1. Subsequently, the second submersible pump will move water to reservoir #2. From there, water will be distributed through a gravity-fed pipe system to the health care facilities (HCFs) and four stand taps located at various points as indicated on the map.   * 1. ***Water demand and Reservoir calculation***   Based on ActionAid survey lafrah village has a population of 100 families (610individual).   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Province : | Ghowr |  |  |  |  | | District : | Ferozkoh |  |  |  |  | | CDC Name : | Lafrah |  |  |  |  | | Project Propose : | Construction of water supply system |  |  |  |  | | Population : | 610 persons |  |  |  |  | | H.Hs : | 100 |  |  |  |  | | Estimation Date : | 23/06/2024 |  |  |  |  | |  |  |  |  |  |  | | **Given** |  |  |  |  |  | |  |  |  |  |  |  | | Pn=P0(1+i)n |  |  |  |  |  | | Present Papulation Household | |  | 100 |  |  | | Design duration = n |  |  | 15 |  |  | | Population Growth = i | |  | 3% |  |  | | Demand Per capita/day | |  | 25 |  |  | | Average Person Per Family | |  | 6 |  |  | | Present papulation = P0 | |  | 610 |  |  | | Peak factor (PF), Wastage-Leakage (WL) | |  | 1.2 |  |  | | Water Pump Output (liter/hr) | |  | 5400.00 | Average |  | | It is a solar water pump. It can pump 2400 liter per hour on average based on the solar power production as it is used to fluctuate through different seasons of the year. However, the pump we selected for this project can pump water beyond this limit. **The effective hour of pumping is taken at 8 hours in our calculation**. | | | | | | | **Design** |  |  |  |  |  | |  |  |  |  |  |  | | **Pn= P0(1+i)n** | Future Population | | 950 |  |  | |  |  |  |  |  |  | | Item | Papulation | | Daily water Demand ( Liter ) | |  | | Q max Present | 610 | | 15250 | |  | | Q max Futher | 950 | | 28511 | |  | |  |  |  |  |  |  | | Water consumption schedule for calculation storage tank capacity | | | | |  | |  |  |  |  |  |  | | Time period (hr) | Duration (hr) | % use | Water Avalibale Liter | Water demand | Deferent to liter | | 6 Am - 8 Am | 2 | 30% | 0 | 8553 | -8553 | | 8 Am - 4 Pm | 8 | 40% | 28511 | 11404 | 17106 | | 4 Pm - 8 Pm | 4 | 30% | 0 | 8553 | -8553 | | 8 Pm - 6 Am | 10 | Negligible | 0 | 0 | 0 | | Total | 24 | 100% | 28511 | 28511 | 17106 | | **17.5 m3  water reservoir needed for the project** | | | | | **17.11** |  * + 1. ***Stand Taps***   Considering the village's population of 610 people, ActionAid has planned a comprehensive water distribution system to ensure adequate access to clean water for all residents. The project includes the construction of four stand taps at strategic locations throughout the village, ensuring that each tap serves a reasonable number of people and is easily accessible to all community members. Additionally, one water tap station will be built adjacent to the main reservoir to provide direct access to water near the source.  Each stand tap will be connected to the main water supply system, which is designed to ensure a reliable and continuous flow of water. The locations of the stand taps have been carefully chosen based on population density, ease of access, and feedback from the community. This strategic placement aims to minimize the distance that villagers need to travel to collect water, thereby improving convenience and reducing the burden on women and children, who are often responsible for water collection.  The water tap station adjacent to the reservoir will be constructed to handle higher usage volumes, ensuring that those living near the reservoir have ample access to water. This station will also serve as a backup in case of any issues with the other stand taps.  Furthermore, the water distribution system will incorporate robust and durable materials to withstand the local environmental conditions and ensure longevity. Regular maintenance schedules will be established to keep the system in optimal working condition and to address any issues promptly.  Overall, this plan aims to provide a sustainable, efficient, and reliable water supply system that meets the needs of the entire village, improving overall health and quality of life.   * + 1. ***Hydraulic Design (Pipes from distribution reservoir to each user point)***   The following table shows the hydraulic calculation of the distribution system.   * HDPE pipes with PE100 and PN 16 are selected for this water supply system. * The pipe diameter size refers to the internal diameter of the pipes * The head loss formula used in the calculation is the DARCY WEISBACH formula. * The pipe network is designed based on DRRD codes. * Residual head at the tap stand, absolute minimum 7m, desirable 15 m & max.30 m * The pipe diameters are sized to regulate the velocity between (0.3 – 1.5) m/s.   Hydraulic calculation for each branch and main pipe is done with EPANET 2   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Surveying data of different components of Solar power flow piped network in Lafrah** | | | | | | | | | **Type of Component** | **Altitude (m)** | **Location Reference** | **Number of** | **Number of Beneficiaries** |  | **Flow (L/s)** | **Storage capacities** | | **families** | **GPS** | **(L)** | | collection box | 1870 | Close to Lafra River | 100 | 700 | 64°40′49.271″E 35°07′6.949″N | 1.5liter/sec |  | | Reservoir#1 | 1968 | Lafrah on top of the valley | 100 | 700 | 64°40′52″E 35°07′11″N | 1.5liter/sec | 4000liters | | Reservoir#2 | 2090 | inside the village on top of hill | 100 | 700 | 64°41′21.096″E 35°07′41.117″N | 1.5liter/sec | 17500liters | | User point Tap#1 | 2071 | close to villagers | 25 | 175 | 64°41′9.49″E 35°07′40.097″N | 0.225liter/sec |  | | User point #2 | 2040 | close to villagers | 20 | 140 | 64°41′6.311″E 35°07′32.58″N | 0.225liter/sec |  | | User point #3 | 2041 | close to villagers | 30 | 210 | 64°41′14.283″E 35°07′33.317″N | 0.225liter/sec |  | | User point #4 | 2040 | close to villagers | 25 | 175 | 64°41′16.528″E 35°07′21.074″N | 0.225liter/sec |  | | SHC | 2080 | nourth of village |  | 90 | 64°41′17.016″E 35°07′44.315″N | 0.116iter/sec |  |   **Total required pipe:**   |  |  |  | | --- | --- | --- | | PIPE -PN16PE100 high standard Afghanistan(PE 100,HDPE NP16Bar) \_ @ 63mm | 1352 | M | | PIPE -PN16PE100 high standard Afghanistan(PE 100,HDPE NP16Bar) \_ @ 40mm | 50 | m | | PIPE -PN16PE100 high standard Afghanistan(PE 100,HDPE NP16Bar) \_ @ 32mm | 817 | m | | PIPE -PN16PE100 high standard Afghanistan(PE 100,HDPE NP16Bar) \_ @ 25mm | 1089 | m | | **Total required pipe** | **3308** | **m** |   The details for pipes and their locations are both in the drawing and Hydraulic calculations sheet.   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **#** | **Pipe line** | | **Length** | | **Designed pipe section (Commercial)** | **Pressure (m)** | **Velocity (m/sec)** | **Flow at each node** | | **From** | **To** | **Actual** | **Design** | **(lit/min)** | | | 1 | collection box | Reservoir#1 | 273 | 300 | PE100NP16-32mm | 50.6 | 2.64 | 1.5 | | 2 | Reservoir#1 | Reservoir#2 | 1229 | 1352 | PE100NP16-63mm | 137.76 | 0.67 | 1.5 | | 3 | Reservoir | Joint#1 | 45 | 50 | PE100NP16-40mm | 12.69 | 0.44 | 0.61 | | 4 | Joint#1 | SHC | 120 | 132 | PE100NP16-25mm | 9.23 | 0.57 | 0.165 | | 5 | Joint#1 | Joint#2 | 191 | 210 | PE100NP16-32mm | 37.79 | 0.79 | 0.45 | | 6 | Joint#2 | User point Tap#1 | 100 | 110 | PE100NP16-25mm | 10.37 | 0.8 | 0.225 | | 7 | Joint#2 | User point Tap#2 | 311 | 342 | PE100NP16-25mm | 29.92 | 0.8 | 0.225 | | 8 | Reservoir#2 | Joint#3 | 279 | 307 | PE100NP16-32mm | 33.38 | 0.79 | 0.45 | | 9 | Joint#3 | User point Tap#3 | 86 | 95 | PE100NP16-25mm | 39.26 | 0.8 | 0.225 | | 10 | Joint#3 | User point Tap#4 | 373 | 410 | PE100NP16-25mm | 24.15 | 0.8 | 0.225 |  * + 1. ***Hydraulic calculation for submersibles sizing:***        1. ***Submersible #1 (from water collection box to reservoir #1)***   H (Static head): Vertical height from the dynamic water level to the highest point of delivery. Based on the ActionAid technical survey, the total difference in vertical height between the reservoir #1 point and the water collection box is 100m.  B (Pump Installation): Based on ActionAid observation from the collection box the depth of the water collection box is insufficient to accommodate the submersible pump, we will construct a small mounting structure to facilitate the horizontal installation of the pump within the tank.  First, we will clean the collection box thoroughly to remove any debris. A stable, elevated mounting platform will be constructed within the collection box to support the pump horizontally, ensuring it is securely positioned and not prone to shifting. The submersible pump will then be lowered onto the mount, positioned horizontally to maximize the limited depth.  Next, the discharge pipe will be attached to the pump’s outlet, ensuring a secure connection and a non-return valve will be installed in the discharge line to prevent backflow. Waterproof sealant will be applied around all pipe connections to ensure watertight integrity.  The pump will be connected to the power supply using waterproof electrical connectors, ensuring all connections are properly insulated. The float switch and well probe will be installed according to the manufacturer’s instructions, allowing for automatic operation based on water levels.  The pump will then be tested by turning on the power supply to ensure correct operation and to check for any leaks. Necessary adjustments will be made to the pump position or piping as needed. All electrical wiring will be secured and protected from the elements.  Finally, a regular maintenance schedule will be established to ensure the optimal functioning of the pump and system. This approach ensures that despite the limited depth of the collection box, the pump can operate efficiently and reliably.  D (Pipeline inner diameter): The pipe that will deliver water from the pump to reservoir #1 is 300m in length with an internal diameter of 32mm.  Head loss: According to AMO water management Software for HDPE100 Pipe with a diameter of 32mm at a flow rate of 1.5 liters/sec = 30m.  Total Dynamic Head (TDH): Vertical height from the dynamic water level to the highest point of delivery plus pressure losses in the pipeline as the height of the water column with the equivalent pressure.  TDH= Head (SWL+DD)+ Pipe Friction losses= 100+30 = 130m **1.2.3.2 Submersible #2 (from reservoir #1 to reservoir #2)** H (Static head): Vertical height from the dynamic water level to the highest point of delivery. Based on the ActionAid technical survey, the total difference in vertical height between Reservoir #2 and Reservoir #1 is 122m.  B (Pump Installation): Based on the ActionAid plan in reservoir #1 we will construct a small mounting structure to facilitate the horizontal installation of the pump within the tank.  A stable, elevated mounting platform will be constructed within the collection box to support the pump horizontally, ensuring it is securely positioned and not prone to shifting. The submersible pump will then be lowered onto the mount, positioned horizontally to maximize the limited depth.  Next, the discharge pipe will be attached to the pump’s outlet, ensuring a secure connection and a non-return valve will be installed in the discharge line to prevent backflow. Waterproof sealant will be applied around all pipe connections to ensure watertight integrity.  The pump will be connected to the power supply using waterproof electrical connectors, ensuring all connections are properly insulated. The well probe will be installed and the timer should be set in the inverter according to the manufacturer’s instructions, allowing for automatic operation based on water levels.  The pump will then be tested by turning on the power supply to ensure correct operation and to check for any leaks. Necessary adjustments will be made to the pump position or piping as needed. All electrical wiring will be secured and protected from the elements.  Finally, a regular maintenance schedule will be established to ensure the optimal functioning of the pump and system.  D (Pipeline inner diameter): The pipe that will deliver water from the pump to reservoir #1 is 1352m in length with an internal diameter of 63mm.  Head loss: According to AMO water management Software for HDPE100 Pipe with the diameter of 63mm at a flow rate of 1.5 liters/sec = 68m.  Total Dynamic Head (TDH): Vertical height from the dynamic water level to the highest point of delivery plus pressure losses in the pipeline as the height of the water column with the equivalent pressure.  TDH= Head (SWL+DD)+ Pipe Friction losses= 122+68 = 190m  **Electrical power source** One choice is available to power the electric pumps (submersibles):   1. Solar panel system  **1.3.1. Electrical part of the solar system** **Solar plant:** A critical part of establishing a photovoltaic power system (PVPS) is the selection of an appropriate site for the solar panels. The chosen site should receive maximum sunshine throughout the year. Given that the lifetime of such systems can be as long as 25 years, selecting a location that ensures optimal energy production is crucial. Due to the high construction costs, relocating the system after installation is not feasible.  The proposed land for the solar plant is public land, and the Lafrah community guarantees that no structures or tall trees, such as poplars, will be erected that could cast shadows on the panels during the day. Additionally, the selected site is safe from natural disasters such as flash floods, landslides, storms, and cyclones, ensuring the long-term viability of the installation. **Fixed Structure of the solar panels:** The solar stand will be constructed using a fixed structure, with construction details provided in the attached drawing. This fixed-structure system will support approximately 20 solar panels arranged in two series. The design specifications for both concrete and steel structures are sourced from the AMO water management standards, ensuring durability and reliability.  Given the secure location of the solar panels, the installation of a perimeter fence is deemed unnecessary.  The solar panels and submersible details:   * Solar panel ( PROPSOLAR 270W Poly crystalline 37.9V 9.22A)) 26 PV panels * Electric submersible pump(PEDROLLO 4SR4/46 5.5HP 4Kw 380V) * Electric submersible pump(PEDROLLO 4SR4/26 3HP 2.2Kw 380V)   Note: If the specified brand of solar panels or any other listed accessories are unavailable, the supplier must obtain written approval from the AAA WASH Specialist or an authorized technical team member for an alternative and changes. This ensures that any substitute meets the project's technical requirements and maintains quality standards   |  | | --- | | Remember!  Each solar pump item needs to be supplied by a registered customs license seller with the following standard certifications:  FCC C009911 Standard, ISO 0991:2000 Standard, UL Standard, TUV Standard |  **Hand washing sink** The installation of handwashing sinks within healthcare facilities is paramount for effective infection control, adherence to hygiene standards, and the enhancement of overall health outcomes. By ensuring that healthcare workers, patients, and visitors have easy access to handwashing facilities, the spread of infections can be significantly reduced, thereby supporting compliance with protocols and minimizing health risks. This initiative ultimately results in lower infection rates, heightened staff productivity, improved patient care, and an overall safer environment within the healthcare setting.  Moreover, the presence of handwashing sinks fosters hygiene awareness, contributing to broader public health initiatives and promoting a culture of cleanliness and wellness. To address this critical need, ActionAid has outlined plans to install a total of 11 ceramic handwashing sinks in key sections of the building, including the OPD room, M.C.H room, vaccination room, nutrition room, hall, and all baths and toilets... etc.). Additionally, two of these sinks will be allocated to the male and female toilets  Each handwashing sink will be equipped with essential amenities, including a shelf for soap and a mirror with shelves, ensuring convenience and practicality for users. These sinks will be securely fixed onto the walls, providing stability and durability for long-term use. **Toilet and latrines** There are currently no proper latrines available in the Lafrah HCF. The following actions are planned for the construction of two blocks of latrines, one for males and one for females:   * Site Preparation: Clear and level the designated site for construction. * Foundation Work: Lay a strong foundation to ensure the durability of the latrine blocks. * Structural Construction: Build two separate blocks, one for males and one for females. * Installation of Eastern Water Closets with Flush Tanks: Install eastern water closets with flush tanks in both latrine blocks to ensure proper waste disposal. * Water Network Connection: Connect the latrines to the existing water supply network for adequate flushing and cleaning. * Washable Surfaces: Furnish the internal surfaces of walls and floors with tiles and ceramics, making them washable and easy to maintain. * Plumbing and Sewer Connection: Connect the water closets to the main sewer system. * Cold-Water Pipes Installation: Connect the cold-water pipes to the pipe network to ensure a consistent water supply for flushing and cleaning. * Trash Bins Installation: Mount trash bins at each latrine to encourage proper waste disposal. * Ventilation and Lighting: Ensure proper ventilation and lighting in each latrine block to maintain hygiene and safety.  **Bathroom** The following actions are planned for upgrading the existing bath.   * Making the internal surface of walls and floors washable by using tile. * A p-trap should be installed at the floor drain to avoid from bad odors * The floor drain should be installed. * The bathroom should be connected to the water network * Plumbing work such us connection of floor drain to the main sewer and connection of cold and hot water pipes to the pipe network should be done. * Trash bins should be mounted inside the bathroom.  **Kitchens** There is one kitchen inside of the clinic building which is not factional the following actions are planned for upgrading the existing kitchen.   * This kitchen should be connected to the water network * Cabinets should be installed in this kitchen. * A dishwashing sink along with a new model mixing valve should be installed. * The floor drain should be installed. * A p-trap should be installed at the floor drain to avoid bad odors. * All walls up to a height of 80cm and the floor should be installed ceramic. * Marble stones with 3 cm thickness should be placed on the cabinets. * Plumbing work such as the connection of the dishwashing sink to the main sewer and the connection of cold-water pipes to the pipe network should be done. * Trash bins should be mounted inside the kitchen. * Installation of solar water heater for kitchens and bathrooms.  **Septic Tank:**  ActionAid plans to construct a new septic tank with the following specifications and measures:  Volume and Dimensions: The septic tank will have a volume of 20 cubic meters, with dimensions of 5.9 meters in length, 3.1 meters in width, and 2.1 meters in depth.  Construction Materials: The tank's walls will be built using stone masonry, and it will be divided into two sections by an internal stone masonry wall.  Durability Enhancements: The walls will be plastered with anti-moisture powder (Pudlo powder) to enhance durability and prevent leaks.  Cover and Accessibility: An RCC (Reinforced Cement Concrete) slab with two manholes will securely cover the septic tank, allowing for maintenance access.  Liquid Waste Management: A dedicated pit will be constructed to drain liquid waste from the septic tank.  Ventilation and Plumbing: A vent pipe and sewerage plumbing will be installed according to the related technical drawings to ensure proper ventilation and waste management.  These measures will ensure the septic tank's functionality, durability, and ease of maintenance. **Waste management**  According to WHO’s requirements, the perimeter of healthcare facilities must not only be protected against clinical hazardous waste but also be secure from domestic waste generated within these facilities.  To achieve the desired optimal hygienic conditions, ActionAid intends to equip and upgrade the current solid waste management system at Lafrah Health Care Center. The planned enhancements are as follows:   * Incinerator Construction: The incinerator will be constructed with a pit made from reinforced cement concrete (RCC) and brick masonry, following the specified drawings. * Waste Disposal Pits: To secure and protect the organic waste disposal pit (for placental waste) and the hazardous waste disposal pit (for sharp wastes), the slabs should be repaired and reinforced to ensure they are impervious to rainwater infiltration. * Incineration Area Security: The incineration area will be protected by erecting a fence with GI pipe poles and fence gates to prevent unauthorized access. The floor will be made of 10 cm thick plain cement concrete (PCC). Proper surface sloping will be incorporated to ensure effective drainage of rainwater from the incineration area. | |
|  | |  |

## Period of workمدت زمان کار

|  |  |
| --- | --- |
| **Start Dateتاریخ شروع** | four months should be finished |
| **End Dateتاریخ ختم** |  |