

## UNDP Afghanistan

### Site Assessment Data

#### Provision of Electricity and Hot Water Systems to Health Facilities in the Western Region

Date: 7-Feb-22

|  |   |
|--|---|
| Name of Health Facility, Type                            | Posht-e-Koh BHC   |
| Village, Province, District                              | Posht-e-koh village, Guzarah district, Herat Province                     |
| Name, phone number of contract person                    | Mohammad Qarizada, 0799353127   |
| Assessment Conducted by (UNDP Field Engineer)            | Eng. Ebadullah Momand   |
| Distance from Herat, type of road to the health facility | 34 Km distance from Herat City (24 Km Asphalt road+10Km Earth road) to HF |
| GPS Point (Coordinates)                                  | 34.09677° N ,62.13765° E  |
| Review and recommendation of project manager             |   |

| S/N | Description   | Field Data  |
|-----|---|---|
| 1   | Existing Power Source (Generator, Solar etc.) and its capacity in kW  | There was mentioned a Generator with 6.5 KW capacity in AADA (Agency for Assistance and development for Afghanistan) information data. But it wasn't available in the field.<br>One other Generator with 2.8 Kw capacity.<br>2 functional Solar panels (each 80 watts) Not enough for clinic. |
| 2   | Number of rooms in the facility   | Clinic main building:(17 Rooms, 6 toilets)<br>Nurse and midwife residency building: (7 rooms, 2 toilets)<br><b>Totally 24 rooms and 8 toilets</b>   |
| 3   | Existing house wiring? Number of power points   | The building has internal wiring.   |
| 4   | Total electrical load<br>- Total number of light bulbs- total Watt<br>- Refrigerator, heater - total Watt<br>- Any other equipment – total Watt (Use a separate sheet, if required) | Existing equipment:<br>Bulbs: 70<br>Refrigerator: 1<br>Warmer:1<br>Ceiling fans: 13<br>Light (for birth room):1<br>LCD 43 inch: 1   |

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|    |   | Warmer ( a machine producing heat for child birth room): 1<br>Water boiler:3<br>See Annex A for further details and need assessment |
| 5  | Cables, wiring, conduits, Junction box etc. require maintenance/replacement. If yes, prepare a BoQ.     | The clinic building wiring is functional.   |
| 6  | Existing streetlight in the compound?   | Doesn't have street light. Need it  |
| 7  | Total number of staff   | Total 8 personals ( 1 Nurse, 1 Midwife,1 supervisor CHS, 2 vaccinator, 2 guards)  |
| 8  | Average number of patients per day  | 90 Patients per day/ 42 village/ 2300 HHs/ 15000 population   |
| 9  | Existing water supply facility, existing plumbing system  | Water supply system is functional.  |
| 10 | Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)            | 3 water boiler<br>80 lit capacity, 1500 watt. Installation date 2008.   |
| 11 | Functional Water well in the facility. Water depth in the well. Water depth from the surface            | 3 wells, have enough water. Well depth 80 m, water depth 15 m in well, 65 m from ground surface.                                    |
| 12 | Capacity of water tank. Insulated or not? Tank height from the surface                                  | Two water tank on the roof each capacity 1000 liter, one is insulated. Water tanks height is 8 meter from the ground surface.       |
| 13 | Type of the existing Structure (RCC/load bearing walls)   | RCC   |
| 14 | Type of existing roof (Pitch or Flat)   | RCC flat roof   |
| 15 | If the roof is Pitch, how many solar panels can be installed on the south face of the Pitch roof?       | Nil   |
| 16 | If the roof is flat concrete, how many solar panels could be installed toward the south face?           | Main Building RCC flat roof (8x9) m<br>See site plan for further details.<br>Residency Building flat roof area: 12x19=228 sqm       |
| 17 | Does the existing roof is fit for installation of Solar System or Required Maintenance/repairing works? | Yes<br>See site plane for further details.  |
| 18 | If above answer is yes, prepare BoQ and estimation for the repairing/upgrading                          | Nil   |

|    |  |   |
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| 19 | Distance from roof to existing main panel board  | About 30 m  |
| 20 | Dimension of existing building in m. (Use a separate paper for a sketch)   | Clinic main building:<br>Length: 17.5m East to west, Width: 12.5 m North to south<br>Residency building:<br>Length: 19 m North to south, Width: 12 m East to west |
| 21 | Are there any technical obstacles/challenges to affect the installation and implement of the solar system as planned? If yes, provide detailed information, recommendation, BoQ along with photos. | There were no technical obstacle and challenges for installation of solar electricity and solar water heater. The responsible person expressed his willingness.   |
| 22 | Is there access to the roof for installations of solar panels  | Doesn't have stable stairs, uses very unstable wooden ladder.   |
| 23 | Take photos of the facility showing a bird eye view, structures, wirings, existing electrical system and roof  | See Annex c for photos  |

**Surveyors' Comment:**

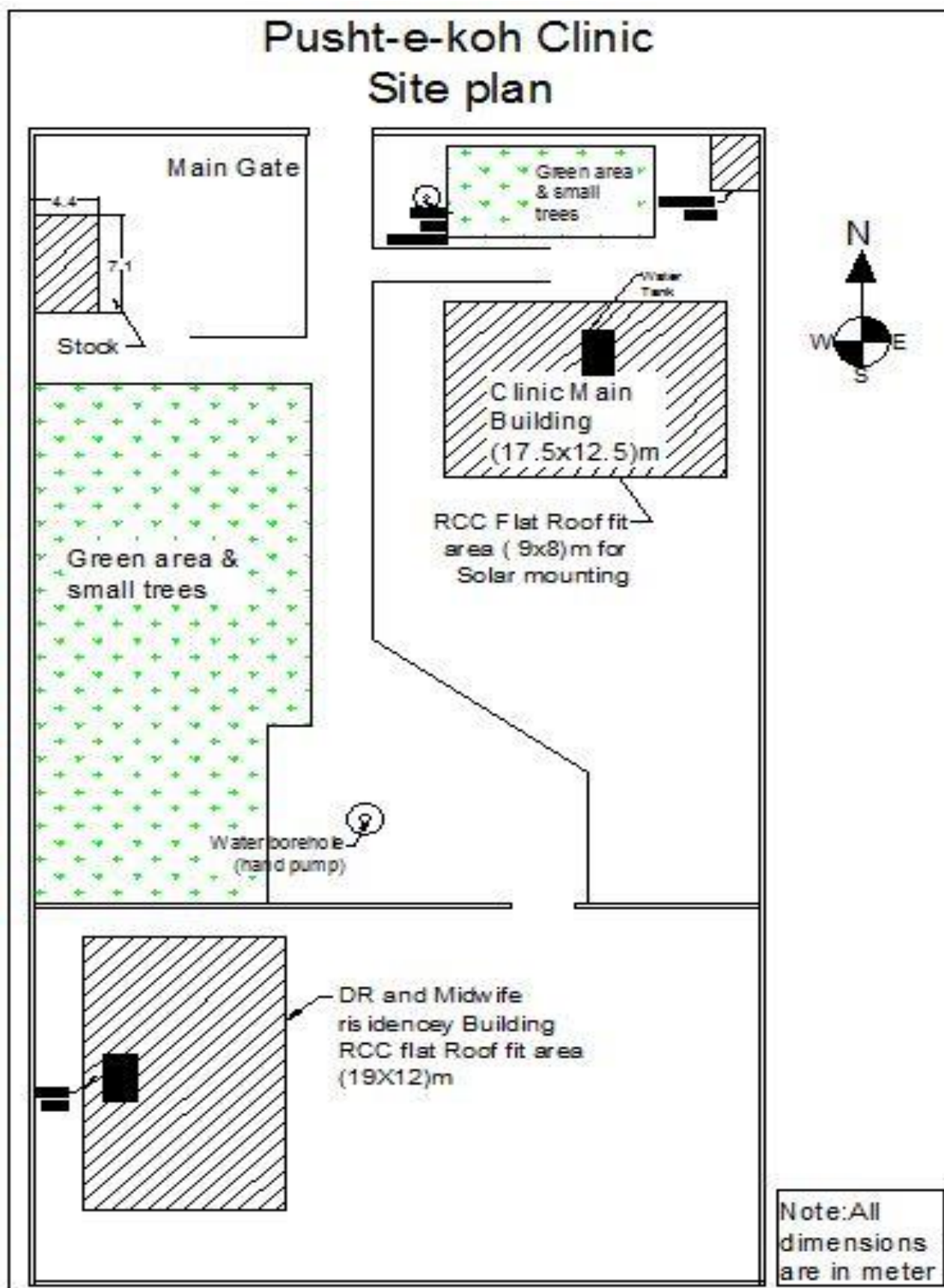
Annex A: Existing electrical appliances load calculation

| Posht-e-koh clinic exciting electrical equipment and energy consumption |               |              |               |                     |                    |                          |               |                                 |
|---|---------------|--------------|---------------|---------------------|--------------------|--------------------------|---------------|---------------------------------|
| No  | Equipment     | Existing QTY | Power (watts) | Total Power (Watts) | Hours used per day | Energy used (watt-hours) | KW-Hr per day | Remarks                         |
| 1   | Bulbs         | 70           | 15            | 1050                |                    |                          |               | Need to replace                 |
| 2   | Refrigerators | 1            | 1500          | 0                   |                    |                          |               | At present use gas refrigerator |
| 3   | Water Boiler  | 3            | 1500          | 4500                |                    |                          |               |                                 |

|    |                         |    |      |      |  |  |  |                       |
|----|-------------------------|----|------|------|--|--|--|-----------------------|
| 4  | Warmer                  | 0  | 1500 | 0    |  |  |  | Use gas               |
| 5  | Auto Clave              | 0  | 0    | 0    |  |  |  | Use gas<br>Autoclave  |
| 6  | LCD                     | 1  | 80   | 80   |  |  |  |                       |
| 7  | Exam light(<br>Movable) | 1  | 50   | 50   |  |  |  | Used in Birth<br>room |
| 8  | Fans                    | 13 | 100  | 1300 |  |  |  |                       |
| 9  | Water pump              | 2  | 500  | 1000 |  |  |  |                       |
| 10 | Street light            | 0  | 100  | 0    |  |  |  |                       |
| 11 | Water cooler            | 5  | 200  | 1000 |  |  |  |                       |
| 12 | Total                   |    |      | 8930 |  |  |  |                       |

Annex B: Needed electricity load assessment

| Posht-e-koh BH clinic- Guzarah district Needed electrical appliances load assessment |               |     |               |                     |                    |                          |               |                    |
|--|---------------|-----|---------------|---------------------|--------------------|--------------------------|---------------|--------------------|
| No   | Equipment     | QNY | Power (watts) | Total Power (Watts) | Hours used per day | Energy used (watt-hours) | KW-Hr per day | Remarks            |
| 1  | Bulbs         | 70  | 15            | 600                 |                    |                          |               |                    |
| 2  | Refrigerators | 1   | 300           | 300                 |                    |                          |               |                    |
| 3  | Water Boiler  | 0   | 1500          | 0                   |                    |                          |               | Solar water heater |
| 4  | Warmer        | 1   | 1500          | 1500                |                    |                          |               |                    |
| 5  | Auto Clave    | 1   | 1000          | 1000                |                    |                          |               |                    |
| 6  | LCD           | 1   | 80            | 80                  |                    |                          |               |                    |
| 7  | Exam light    | 1   | 65            | 65                  |                    |                          |               |                    |
| 8  | Fans          | 20  | 100           | 2000                |                    |                          |               |                    |
| 9  | Street light  | 1   | 100           | 100                 |                    |                          |               |                    |
| 10   | Water cooler  | 5   | 200           | 1000                |                    |                          |               |                    |
| 11   | Water pump    | 2   | 500           | 1000                |                    |                          |               |                    |
| 12   | Total         |     |               | 7415                |                    |                          |               |                    |





Annex D: Site photos







