

UNDP Afghanistan

Site Assessment Data

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

Date: 17-Feb-22

Name of Health Facility, Type	Obe, CHC+
Village, Province, District	Obe bazaar, Obe district, Herat Province
Name, phone number of contract person	Dr. Tokhi , 0799632258
Assessment Conducted by (UNDP Field Engineer)	Ebadullah Momand
Distance from Herat, type of road to the health facility	115 Km distance from Herat City to HF(62 km Asphalt road+53 km earth road)
GPS Point (Coordinates)	
Review and recommendation of project manager	

S/N	Description	Field Data
1	Existing Power Source (Generator, Solar etc.) and its capacity in kW	2 Generator with 25 KW and 20 KW capacity. solar energy system (10 KW) capacity (34 panels, 28 battery 150 AH,
2	Number of rooms in the facility	5 buildings (totally rooms
3	Existing house wiring? Number of power points	The building has internal wiring.
4	Total electrical load - Total number of light bulbs- total Watt - Refrigerator, heater - total Watt - Any other equipment – total Watt (Use a separate sheet, if required)	Main building of Clinic Existing equipments: Light Bulbs: 250 Ceiling fans: 40 Light (for child birth room and operation room):5 Light for operation room: 1 AC: 4 Oxygen machine: 4 LCD: 4 Vacuum cleaner (broom):1 Street light:1 Flood light: 3

		Printer: 2 Desktop computer: 1 Laptop : 3 Washing machine:1 Warmer: 2 Auto clave: 4 Section (vacuum machine): Pals Monitor:1 Refrigerator:6 Water boiler: 7 See Annex A & B for further details and needs.
5	Cables, wiring, conduits, Junction box etc. require maintenance/replacement. If yes, prepare a BoQ.	There are five buildings in this clinic need to maintenance and checkup, replacement of some junction box, wirings, sockets, fuses, bulbs and holders etc.
6	Existing streetlight in the compound?	Has street light
7	Total number of staff	28 personals
8	Average number of patients per day	4000 Patients per day
9	Number of Villages under coverage	300 villages /57570 populations
10	Existing water supply facility, existing plumbing system	CHC+ has supply facility and plumbing system some few parts need to maintenance and replacement of equipments.
11	Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)	5 water boiler, 80 liter, 1500 watt , 2009
12	Functional Water well in the facility. Water depth in the well. Water depth from the surface	1 water wells, 75 m deep ,water depth from ground surface is 30 m
13	Capacity of water tank. Insulated or not? Tank height from the surface	15000 liter metal water tank, not insulated. Tank height is 10 meter from the surface.
14	Type of the existing Structure (RCC/load bearing walls)	RCC
15	Type of existing roof (Pitch or Flat)	Three roof are pitch and two are flat. The existing solar panels are mounted on the flat roof. But the problem is the

		shadow of trees on it. The length of the roof is in south face. One pitch roof is very fit for solar panels because the south face is free and doesn't have shadow on it.
16	If the roof is Pitch, how many solar panels can be installed on the south face of the Pitch roof?	yes pitch Roof south face area: (29x13.5) m
17	If the roof is flat concrete, how many solar panels could be installed toward the south face?	Flat roof has the place, but there is a little shadow of trees on the south face.
18	Does the existing roof is fit for installation of Solar System or Required Maintenance/repairing works?	Yes, but there is a little shadow of trees on the south face. See site plane and roof plan for further details.
19	If above answer is yes, prepare BoQ and estimation for the repairing/upgrading	Nil
20	Distance from roof to existing main panel board	From building roof to electricity board to: 70 m approximately
21	Dimension of existing building in m. (Use a separate paper for a sketch)	Dimensions: Building # 1: Length: 29 m East to west, Width: 13.5 m Annex D : sketch of the site
22	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.	The existing solar panels mounted on the flat roof, roof has other area as well but, there are some trees on the south side of the building and the shadow falls on the panels. The responsible person expressed his willingness.
23	Is there access to the roof for installations of solar panels	Doesn't have access. Only has wooden ladder.
24	Take photos of the facility showing a bird eye view, structures, wirings, existing electrical system and roof	See Annex C for photos

Surveyors' Comment: The observation and survey data showed that the mentioned HF need to maintenance, replacement of some equipment's and extension of solar energy system. And also need to provide 4 solar hot water systems.

Annex A: Existing electrical appliances load calculation

Obe CHC+ exciting electrical Appliances 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	200	15	3000				
2	Refrigerators	4	0	0				
3	Exam light	5	65	325				
4	Ac	3	1500	4500				
5	Fans	34	100	3400				
6	Street light	1	100	100				
7	Flood light	1	150	150				
8	Autoclave (big size)	1	2500	2500				
9	Auto clave small size	3	1200	3600				
10	LCD	4	80	320				
11	warmer	0	1500	0				
12	Pals monitor	1		0				
13	Operation light		150	0				
14	Section vacuum	5	400	2000				
15	laptop	3	15	45				
16	Desktop computer	1	50	50				
17	Printer	2	200	400				
18	Vacuum cleaner	1	500	500				
19	Water pump	1	1500	1500				
20	Water cooler	4	250	1000				
21	Water boiler	7	1500	10500				

	Total			33890				
--	-------	--	--	-------	--	--	--	--

Annex B: Needed electricity load assessment

Obe CHC+ 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	250	15	3750				
2	Refrigerators	4	300	1200				
3	Exam light	5	65	325				
4	Ac	4	1500	6000				
5	Fans	40	100	4000				
6	Street light	1	100	100				
7	Flood light	3	150	450				
8	Autoclave (big size)	1	2000	2000				
9	Auto clave small size	3	1200	3600				
10	LCD	4	60	240				
11	warmer	2	1500	3000				
12	Pals monitor	1	500	500				
13	Operation light	1	125	125				
14	Section vacuum	5	400	2000				
15	laptop	3	15	45				
16	Desktop computer	1	50	50				
17	Printer	2	200	400				
18	Vacuum cleaner	1	500	500				
19	Water pump	1	1500	1500				
20	Water cooler	4	250	1000				
21	Water boiler	0	1500	0				Solar water heater will provide the necessity

22	Total			30785				

Annex C: site photos





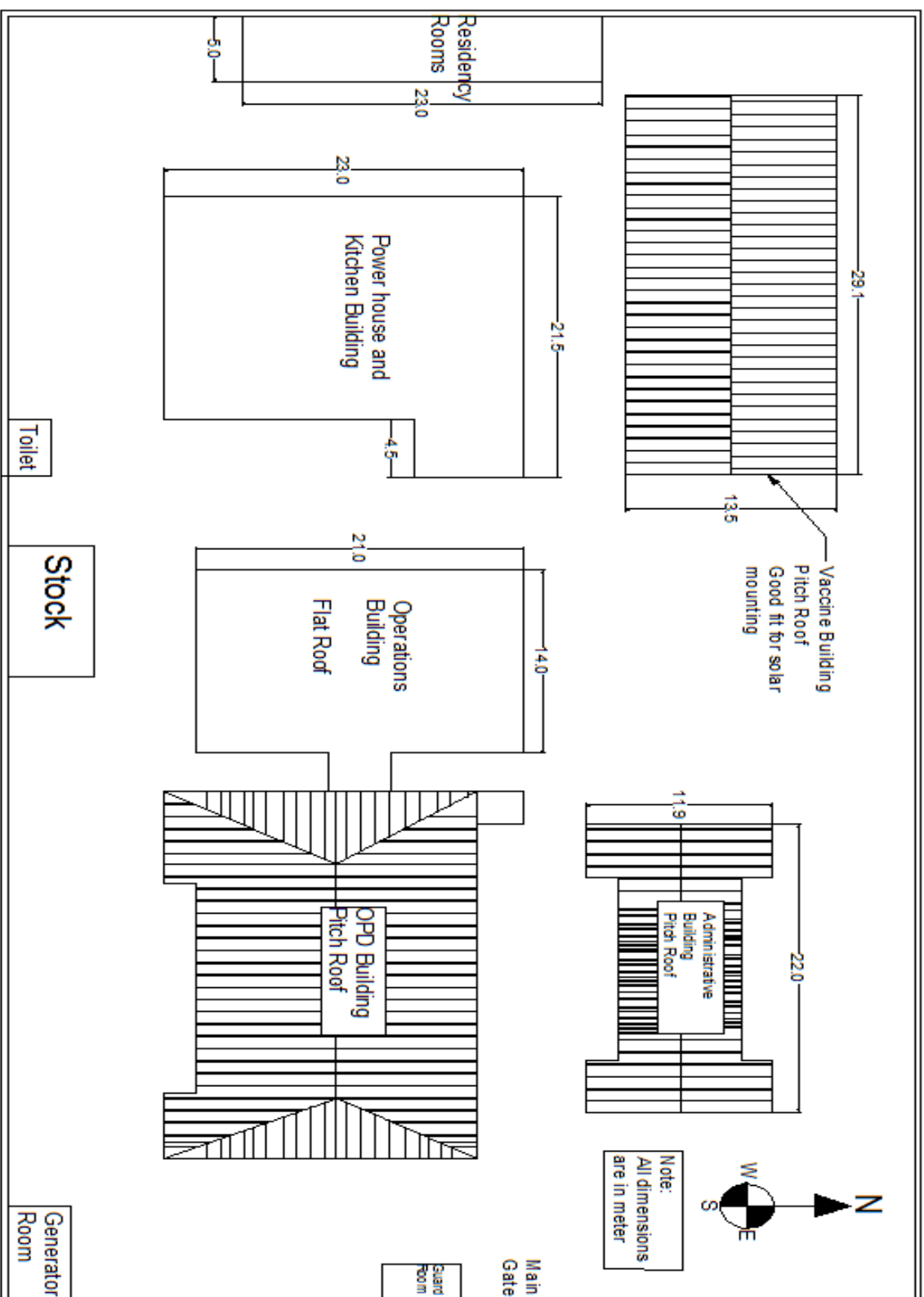






Annex D:Site sketch

Obe Clinic Site plan



Obe Bazzar Road