|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Water Facility Data** | **Water Treatment System Name** | | | | |
|  | **Jouri** | **Alkashafa** | **Alredais 1** | **Alredais 2** | **Al-Alagaya** |
| **General** |  |  |  |  |  |
| Location (Lat., Long.) | 12.47882 32.78614 | 12.511893 32.782364 | 12.591242 32.784193 | 12.592244 32.761763 | 12.36014 32.79987 |
| **Discharge side** |  |  |  |  |  |
| Daily Water Demand (m3) | 226 | 275 | 231 | 520 | 600 |
| Water temperature (°C) | 35 | 35 | 35 | 35 | 35 |
| Pump cable Length (m) | 20 | 17 | 22 | 20 | 35 |
| Delivery pipe length (m) | 37 | 827 | 1650 | 31.5 | 22 |
| Treatment plant actual production (m3/hr) | 16 - 21 | 16 - 25 | (12-34) | 20-34 | 25-30 |
| Design flow (m3/h) | 20 | 20 | 30 | 30 | 30 |
| Elevation difference between outlet of pump & inlet of elevated water tank (m) | 16 | 18 | 19 | 19 | 15 |
| Equivalent length for suction pipe fitting losses – (m) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Suction side** |  | | | | |
| Depth to sump intake (m) | 3 | 3 | 3 | 2.5 | 3 |
| Size of suction pipe (inches) | 3 | 3 | 3 | 3 | 3 |
| Total length of suction pipe (m) | 3.3 | 3.3 | 3.3 | 4 | 3.3 |
| Equivalent length for suction pipe fitting losses – (m) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Other Details** |  | | | | |
| Power of motor (KW) – existing pump | 9.2 | 7.5 | 7.5 | 5.5 | 7.5 |
| Reflectance loss (%) | 3 | 3 | 3 | 3 | 3 |
| Temperature de-rating (%) | 17 | 17 | 17 | 17 | 17 |
| Dirt loss (%) | 5 | 5 | 5 | 5 | 5 |
| Max allowable AC/DC cable losses (%) | 2 | 2 | 2 | 2 | 2 |
| Allowance for module degradation (%) | 20 | 20 | 20 | 20 | 20 |
| Maximum ambient temp | 45 | 45 | 45 | 45 | 45 |
| Existing Generator size (kVA) | 30 | 30 | 30 | 25 | 30 |
| Existing Tank Capacity (m3) | 60 | 60 | 60 | 60 | 60 |
| **Existing Pump Details** | | | | | |
| Brand | Vega pump | Caprari | Sea Land | Caprari | Sea Land |
| Type | STN50-200C | 1D50710 | CN50-160A | MEC-A2/50A | CH50-160A |
| Power (KW) | 9.2 | 7.5 | 7.5 | 5.5 | 7.5 |
| Head (m) |  | 44.9 - 22.3 | 34 - 40 |  | 34-40 |
| Flow rate(m3/h) |  | (6-18) L/sec | 1000 - 300 L/min. |  | 200-1000L/mi.n. |

**Design Parameters for White Nile Water Treatment Systems**

|  |  |  |  |
| --- | --- | --- | --- |
| **Daily demand for the mentioned camps** | | | |
| **Camp name** | **Current Population** | **Std. L/P/D** | **Daily demand (m3)** |
| Jouri | 11,276 | 20 | 226 |
| Alkashafa | 12,994 | 20 | 260 |
| Alredais1 | 11,528 | 20 | 231 |
| Alredais2 | 25,986 | 20 | 520 |
| Al-Alagaya | 20,918 | 20 | 418 |

**Design should consider prolonged cloud cover- worst-case scenario (July – August)**