**Solar Design and Load Analysis**

### SUN HSU Garment Co., Ltd. Solar PV Project Overview

**Client Name**: SUN HSU Garment Co., Ltd.

**Location:** Kabas Village, Khvet Thum Commune, Prey Chhor District, Kampong Cham Province, Cambodia

**Project Summary:** The project aimed to reduce electricity costs and minimize environmental impact of the SUN HSU Garment Factory in Kabas Village by installing a Solar Photovoltaic (Solar PV) system. This system was designed to address the high electricity consumption of energy-intensive machinery across three production zones, which employ 2,900 workers.

The project has a total installed capacity of 1,573 kWp, consisting of three different zones with an allocation of 572 kWp and 429 kWp across them. A total of 2,420 solar PV modules were installed at a mounting height of 2.5 meters, inclined at 10 degrees facing south. In terms of energy production and environmental impact, the system is projected to generate an annual energy output of 2,276 MWh. Over a span of 25 years, it will replace approximately 55,513.6 tons of CO2 emissions, while the CO2 emissions during operation are estimated at 1,081.8 tons.

The implementation of the Solar PV system has resulted in significant operational cost savings and enhanced the factory's reputation as a leader in green technology within the garment manufacturing sector.

**Groundwater Survey**

### Groundwater Survey Project Overview

* **Company Name**: Private Client
* **Location**: Chisang Village, Ratanakmundul District, Battambang Province, Cambodia

**Project Summary**

The primary objectives of the groundwater survey were the following:

* Identification of the approximate locations and depths of groundwater wells
* Prioritization of wells
* Design of detailed well location maps

The survey covered 5 hectares at each site, incorporating a total of 18 survey lines. Fieldwork utilized a groundwater detector from the United States to identify optimal locations for groundwater wells. The successful completion of this project provided essential data for informed decision-making regarding well drilling for our client.

**Well Drilling, Design & Construction**

**Baby Bird Farm Well Drilling Project Overview**

* **Company Name**: Baby Bird Farm
* **Location**: Damnak Chang Er, Sangkat Prey Thom, Kep City, Kep Province, Cambodia

**Project Summary**

KB Engineering undertook a well drilling project for Baby Bird Farm to enhance water access for its agricultural operations. This involved drilling multiple wells in different areas of the farm, procuring and installing essential equipment such as transfer pumps, and ensuring efficient water transport from one area to another.

**Bored Well Design, Construction, and Installation**

**Client:** Angkor Harvest Co., Ltd.

**Location:** Kampong Speu Province, Cambodia

**Project Summary**

KB Engineering Services successfully designed, drilled, and installed a water well with a diesel-powered pump for Angkor Harvest's food processing facility and farm. The well was constructed to meet provincial regulations, ensuring a safe and reliable water supply for the client's operations.

Key Services included:

* **Bored Well Design & Drilling:** Designed and drilled a well with secure casing and a water-tight cap to prevent contamination.
* **Diesel Pump Installation:** Installed a reliable diesel-powered pump to support farm operations.
* **Equipment Supply:** Provided all materials, including well casing, drilling tools, and safety gear.
* **Operations & Maintenance:** One-year maintenance service with quarterly inspections.

KB Engineering successfully delivered the water pump test report, water quality test results, well completion report and calibration certificates efficiently. This project ensured a dependable water source for Angkor Harvest’s operations, underscoring our commitment to quality, safety, and client satisfaction.

**Mobile App and Web Development**

KB Engineering has developed websites for various small companies across different industries, showcasing our versatility and expertise in web development. Our comprehensive approach to mobile app development includes user experience research, interaction and experience design, thorough market research and testing, and implementation and maintenance of SEO best practices to ensure the highest quality standards.

Currently, we are in the midst of creating a mobile application designed to assist in English language learning for users in Cambodia. This application aims to provide an engaging and interactive platform for learners to enhance their language skills effectively.