WATER SYSTEM IMPROVEMENT PROJECT · 2026

Building Water Independence Together

A collaborative project made possible through the support of donors and partners

Xylem × Solidarity Engineering × Phoenix Shelter
Zaklad Village, Lviv Region, Ukraine



34 m
deep new well

40+
people live at the shelter

3–5 t
of water used every day

$3,500
approximate total cost

COMPLETED PROJECT

PRESENTATION OVERVIEW

About this project report

This report was created to document and organize all key information related to the drilling and installation of the new water borehole at Phoenix Shelter.

It combines technical information, photographs, and project outcomes in one structured format. It was designed not only to provide an overview of the project itself, but also to create a practical archive of visual materials that can be easily reused in future reports, donor updates, grant applications, presentations, and project documentation.

Each section explains the reasoning behind the decisions that were made, the challenges the shelter faced before the project, the selected technical solution, and the results achieved after implementation.

The photographs included throughout illustrate both the construction process and the practical impact of the project on the daily lives of shelter residents.

In addition to documenting the project, this report also provides a brief explanation of the operational logic behind the water system, helping readers understand why water independence is a critical component of long-term sustainability for a humanitarian shelter in Ukraine.

We hope this overview helps demonstrate not only the technical improvements that were achieved, but also the positive impact that reliable access to water has on the safety, dignity, and quality of life of the people who call Phoenix Shelter home.

WHY WATER INDEPENDENCE MATTERS

For any shelter, long-term sustainability begins with reliable access to water.

In Ukraine, humanitarian organizations and shelters cannot fully depend on external infrastructure. War, power outages, damage to utilities, and other unforeseen circumstances can disrupt access to water at any time.

Power outages

Damage to utilities

Unforeseen circumstances

That is why creating an independent and reliable water supply system became one of the key priorities for Phoenix.



DAILY NEEDS

How much water we use



40+

Today, more than 40 people live at the shelter.

3–5 tonnes

On average, this requires between 3 and 5 tonnes (3,000–5,000 liters) of water every day.

Every day, water is needed for:

Cooking meals

Washing dishes

Showers and personal hygiene

Toilet facilities

Laundry

Daily cleaning

of more than 700 m² of indoor space

THE SOLUTION

Why we chose a 34-meter-deep well

After evaluating different options, we decided to invest in a **deep well.**



A traditional well

Previously, the shelter relied on a traditional well that was heavily dependent on rainfall and snowmelt. During dry periods, water levels would drop significantly, creating ongoing challenges for maintaining a reliable water supply.



The new deep well

The new deep well provides a much more dependable source of water and is far less affected by seasonal weather conditions.

34 m

A much more dependable source of water, far less affected by seasonal weather conditions.

HOW IT WORKS

Our current water system

The well

Water from the well is automatically pumped out.

Underground pipeline

About one meter below ground level, to prevent freezing in winter.

Storage tank

Inside the building. A float-level sensor controls the pump.

The shelter

A continuous water supply, with little manual work.

Today, **water from the well is automatically pumped into a storage tank** located inside the building. The system is equipped **with a float-level sensor that automatically controls the pump** and maintains the required water level.

Water is delivered to the shelter through an underground pipeline installed approximately one meter below ground level to prevent freezing during winter.

This system ensures a continuous water supply while minimizing the need for manual operation.



THE RESULTS SO FAR

> We have been using the new borehole for several months, and the results have exceeded our expectations.

> Even during emergency power outages, the water stored in our tank has been sufficient to keep the shelter operating normally.

PROJECT COST

What the project cost

The total cost of this project was approximately

$3,500



Delivery of materials to the site.

This amount included:

- drilling the 34-meter well
- drilling consumables and installation materials
- pipes, fittings, valves, and other components required for the water system
- excavation of the trench connecting the well to the shelter building
- connection and integration of the well into the shelter's water supply system
- water quality testing
- preparation of the technical documentation and passport required for future registration of the well

While the investment was significant for our organization, it provided something invaluable: **a reliable, sustainable, and independent source of water for more than 40 shelter residents.**

Today, this system supplies thousands of liters of water each day and supports cooking, hygiene, cleaning, laundry, and all other essential shelter operations. It has become a critical part of the long-term sustainability and resilience of Phoenix Shelter.

THE OUTCOME

Today, that challenge is behind us.

The shelter now has a stable, reliable, and sustainable water supply that supports residents every day of the year.





THE PEOPLE BEHIND IT

When people stay on site until late at night not because they are required to, but because they care about doing the job right, it says a lot about their character.

THE NIGHT OF THE INSTALLATION

The people behind the project



A still from the video of the installation team working into the night.

That evening, we knew we had chosen the right team. Their dedication and commitment gave us confidence that this project would be completed to the highest standard.

The installation team continued working **until 11:00 PM**, and the excavator remained on site **until around midnight** to finish the final stages of the project.

For us, this was more than just construction work. It demonstrated the commitment and professionalism of the people involved. They understood how important this project was for **more than 40 residents** who depend on a reliable water supply every day.

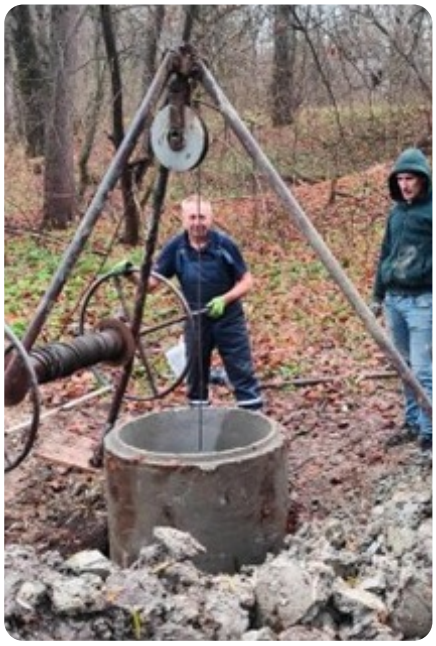
Photos from the well drilling



Drilling the well.



A still from the drilling video.



The traditional well the shelter relied on before.