

**CHAPTER SIX**  
**CONCLUSION AND**  
**RECOMMENDATIONS**

## **Chapter Six**

### **Conclusion and Recommendations**

In this chapter the main conclusions and recommendations.

#### **6.1 Conclusion**

This research was conducted to study behavior of expansive soil and design underground water tanks in it. From the results of this research it can be concluded that:

1. Foundation on expansive soils must be designed constructed to adequately resist up lift force, up lift forces resulting from heave caused by the swelling of soils in response to increase in moisture content. The repairs and maintenance of such damages cost more than the initial construction costs.
2. Design of water tank involves tedious method. Particularly design of underground water tank involves lots of mathematical formulae and calculation.

#### **6.2 Recommendations**

The result of this research, the recommendation for this research are:

1. Laboratory and filed invitation tests need to be done too identify the properties of the soil to be determine the appropriate foundation type.
2. Check and focus on design according to British specifications to avoid errors resulting from structural design.
3. Interest in the construction of underground water tank reservoirs to avoid disruption that may lead to lost function of the facility (e. g leakage).
4. Hydraulic design work for water network.

5. Technical requirements should be available in potable water tanks:

- ❖ To be as far away from all sources of pollution as possible, so that they are not less than ten meters from any source of pollution such as analysis and assembly cabinets, sewage wells or inspection rooms. Take care of the floats, valves, accessories, clean them, remove their diverticulitis from salts and leaks and change them in case of damage.
- ❖ The reservoirs location is not low until the rain water that is loaded to dust and dirt, in addition, it should be high on the sewage site and allow the surface of the reservoir to pass through the water to the Beara, not the opposite, and the level of the ground water reservoir must be higher than the level of pollution sources if found at least fifty centimetre.
- ❖ If the ground water level is high, an underground drainage must be around the ground water reservoir to prevent filtration into the reservoir.
- ❖ When constructing ground water tanks must be near as possible for the entrance wall and in the case of the construction of ground reservoir within the building of apartment buildings, it shall be as it is easy to fill it or external maintenance.

6. The walls and floor of the ground tanks must be fully Sentenced for not being nominated so that they are not exposed to contamination, so it must paint the bottom and the walls of the reservoir from inside and

outside with cement, in addition to adding a substance that prevents the observation and it must be a poisonous substance and the walls of the bed and the tank are out with layers of moisture Insulating horizontally and vertically.