Boone Water Treatment Plant – Field Trip – October 28, 2004 Meet at the plant at 9:15 am.

Directions to the Water Treatment Plant in Boone (433-0536) Take 30 West to Stop sign in Boone. Turn right onto Story St. Follow Story into town. Turn left on Mamie Eisenhower (at gas stations). Follow Mamie past nursing homes and school. Turn right onto Marion St. Take Marion across railroad tracks. Turn left onto E26 (also called 198th St.) Stay on E26 (if you go straight you will end up on 198th street). Follow E26 towards Frazier. Once you get near the Des Moines River, the road will descend. On the left (South) side of the road, you will see the Water Treatment Plant (Waterworks Park). It will be near, but not all the way at the bottom of the hill. If you cross the River, you've gone too far.

Based on your visit to the plant, write a report (about 1 to $1\frac{1}{2}$ pages) on the operation of the facility. Briefly discuss the processes used to treat the water. Include in your discussion answers to the following:

- 1. What is the source water for the plant?
- 2. What treatment chemicals are used in processing the water?
- 3. What residues are produced in treating the water and how are they disposed?
- 4. Draw a flow diagram. Indicate where the chemicals are added and where residues are removed.
- 5. Based on the tour and/or published information from the plant, how much water does the average family of three use per year? At what cost? What would be their combined water and sewer rate?