



IOWA DEPARTMENT OF NATURAL RESOURCES
 WATER SUPPLY ENGINEERING SECTION
CONSTRUCTION PERMIT APPLICATION
 SCHEDULE-11, Ion Exchange

Date Prepared _____	Project Name/Description
Date Revised _____	

1. Design Data:

Softener: _____ Pressure: _____ Downflow: _____

Unit Number	Unit #	Unit #	Unit #
Capacity (gpm)			
Dimensions (inches)			
Operating Pressure (psi)			
Softening Rate (gpm/ft ²)			
Backwash Rate (gpm/ft ²)			
Duration of backwash (minutes)			
Resin			
Technical Name			
Exchange Capacity			
Salt Regeneration (lb. NaCl/ft ³)			
Volume of Resin (ft ³)			
Depth of Resin (ft)			

2. Provide the following salt storage information:

- a. Capacity: _____ lbs; _____ days
- b. Above or below ground: _____ Wet or dry: _____
- c. Type of structure: _____

3. For the following, reference the page of the plans or specifications where the description can be found.

Materials and Construction Details	Plan or Specification Page Number
Brine Distribution	
Cross Connection Control	
Bypass	
Sampling Taps	
Brine and Salt Storage	
Salt Storage Housing	

- 4. How large an air gap is provided between the backwash water outlet & the receiving sump? _____ inches
Spec. Page No. _____
- 5. Are automatic regeneration controls provided? Yes No Spec. Page No. _____
Describe the regeneration procedure: _____
- 6. Can all automatically controlled switches and valves be manually operated? Yes No
- 7. Is salinity testing equipment provided? Yes No Spec. Page No. _____
- 8. Are valve operators located within five feet of the operating floor? Yes No Spec. Page No. _____
- 9. Are drains provided for each salt storage structure and brine tank? Yes No
How large an air gap is provided between the drain outlet and the receiving sump? _____ inches
- 10. Are all gauges placed so as to be easily read from the normal operating floor? Yes No
Spec. Page No. _____