

State of Kansas



DEPARTMENT OF HEALTH AND ENVIRONMENT

Division of Environment  
TOPEKA, KANSAS 66612

PUBLIC WATER SUPPLY

Date: \_\_\_\_\_

To the Secretary, Department of Health and Environment, Topeka, Kansas:

In conformance with the provisions of Kansas Statutes Annotated 65-163

**City of Olathe, Johnson County, Kansas**

Name of Municipality, Institution, District, Company, Corporation or Person

hereby makes application to the Department of Health and Environment for a permit, or additional permit due to proposed change in source, storage, or treatment, to supply water for domestic purposes to the public within the State of Kansas, in accordance with the information herein contained and with the accompanying maps, plans and specifications, which are made a part of this application.

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The following questions are designed to meet the requirements of widely varying conditions. Answers are desired to all applicable questions.

**GENERAL**

1. Type of facilities to be constructed: \_\_\_\_\_  
\_\_\_\_\_
2. Give population to be served: \_\_\_\_\_

**SOURCE OF SUPPLY – SURFACE-WATER SUPPLY**

3. In case the proposed supply is to be taken from a river or creek, furnish the following information:
  - (a) Name of stream \_\_\_\_\_
  - (b) Drainage area above intake, in square miles \_\_\_\_\_
  - (c) Approximate minimum flow of stream \_\_\_\_\_
  - (d) Location of intake with reference to potential sources of pollution \_\_\_\_\_  
\_\_\_\_\_

- (e) Furnish map of general layout, together with plans of intake, suction line, dam, intake well, and all other devices to be used in taking water from the river, and specifications for their construction.
- (f) Remarks \_\_\_\_\_  
\_\_\_\_\_
4. In case the supply is to be taken from an impounding reservoir, furnish information as follows:
- (a) Area of water surface when reservoir is full, in acres \_\_\_\_\_
- (b) Maximum and average depth of water in reservoir, when full:  
Maximum \_\_\_\_\_ Average \_\_\_\_\_
- (c) Approximate holding capacity of reservoir when full, in gallons \_\_\_\_\_
- (d) Name of creek tributary to reservoir, and its drainage area in acres or square miles \_\_\_\_\_  
\_\_\_\_\_
- (e) Average yearly rainfall over drainage area \_\_\_\_\_
- (f) Nature of drainage area:  
smooth or rough \_\_\_\_\_ sand or clay \_\_\_\_\_  
percent of tilled land \_\_\_\_\_ percent of grass land \_\_\_\_\_  
percent of timbered land \_\_\_\_\_
- (g) What measures will be taken to protect the drainage and reservoir from contamination? \_\_\_\_\_  
\_\_\_\_\_
- (h) What measures are proposed for protecting the supply from excessive plant and algae growths in shallow water? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (i) Furnish (1) a map of the drainage area, showing the location of all public roads and railroads; all residences, animal feedlots, and picnic or camping grounds within the limits of the area; (2) a large-scale contour map of the reservoir area; (3) plans of the dam, spillway, blow-off or drain, and intake arrangement, together with specifications for their construction.

#### **SOURCE OF SUPPLY – GROUND-WATER SUPPLY**

5. In case the proposed supply is to be taken from wells, furnish information as follows:
- (a) Number of wells available at present \_\_\_\_\_

(b) Number of wells to be constructed \_\_\_\_\_

(c) Location of well(s) to be constructed ( $\frac{1}{4}$   $\frac{1}{4}$  section, twp., R) \_\_\_\_\_

(d) Diameter and depth of each new well \_\_\_\_\_

(e) Log of the well or test holes \_\_\_\_\_

(f) Description of the aquifer from which the supply of water is to be obtained \_\_\_\_\_

(g) State type of well casing and its diameter, length, thickness and weight per foot \_\_\_\_\_

(h) State means employed to facilitate the entrance of water into the well from the aquifer. If a well screen is to be used, give length, type of material and size of openings \_\_\_\_\_

(i) Give detailed results of any preliminary tests that have been made to determine the yield of the proposed wells, or any data that might be used in estimating such yields \_\_\_\_\_

(j) Furnish large-scale map showing general layout of wells, together with plans and specifications for the construction of wells, well house, pumping equipment and appurtenances.

6. In case the proposed supply is to be derived from springs, furnish information as follows:

(a) Character and thickness of aquifer from which springs apparently flow \_\_\_\_\_

- (b) Results of any measurements or tests that have been made to determine the yield of the proposed springs or any data that might be used in estimating such yield \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (c) Furnish large-scale map showing general layout of springs, and plans and specifications for the construction of whatever collecting chambers, tunnels, weirs and conduits are to be used to collect or store the water from the springs and convey it to the point of use.
7. In case the supply is to be collected from an underground source by means of infiltration galleries, collecting pipes or tunnels, or similar devices, furnish the following information:
- (a) Description and depth of aquifer from which supply is collected \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (b) Character and thickness of each stratum of material encountered, from the surface of the ground down to the aquifer from which the water is to be obtained \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (c) Give results of any tests that have been made to determine the probable yield of water from the proposed construction, or any data that might be used in estimating such yield \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (d) Furnish large-scale map showing general layout of collecting system, together with plans and specifications for the construction of collecting pipes, tunnels, or galleries, and of whatever weirs, conduits and other devices may be employed.
8. Are there any cesspools, septic tanks, sanitary sewers, feedlots, underground storage tanks for petroleum products or chemicals, or other sources of pollution within 600 feet of site of proposed supply? \_\_\_\_\_  
If so, specify each, or show location on a map \_\_\_\_\_  
\_\_\_\_\_
9. Are there any salt or oil wells in the vicinity that would be likely to injure the supply? \_\_\_\_\_  
\_\_\_\_\_
10. Is there to be an auxiliary supply for emergency use, as in case of large fires? \_\_\_\_\_

If so, describe source of such supply, the connection of the same with the pumping plant, and the conditions under which it is to be used: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

### PURIFICATION

11. State briefly the treatment processes to be used \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

12. State basis of design of treatment works as to capacity \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

13. In case of aeration, give type and location of aerator \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

14. In case of preliminary sedimentation, give type, capacity, theoretical detention, overflow rate and weir loading of basin: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. In case of sedimentation with coagulation, furnish information as follows:

(a) Chemicals used \_\_\_\_\_

(b) Points of application of chemicals, and facilities for feeding, mixing and flocculating: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

(c) Capacity, theoretical detention, overflow rate and weir loading of basin: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

(d) Type of sludge disposal \_\_\_\_\_

16. In case of filtration furnish information as to the following:

(a) General type of filter \_\_\_\_\_

(b) Number and dimensions of filter units \_\_\_\_\_

(c) Type and source of filter media \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

(d) Depth of filter media \_\_\_\_\_

- (e) Type of underdrain \_\_\_\_\_
  - (f) Quantity and source of wash water \_\_\_\_\_
  - (g) Filter equipment (gauges, controllers, etc.) \_\_\_\_\_
  - (h) Type and capacity of clearwell \_\_\_\_\_
17. Chlorination is required. Give information on chlorination equipment:
- (a) Make, model and capacity of equipment \_\_\_\_\_  
\_\_\_\_\_
  - (b) Place of application \_\_\_\_\_  
\_\_\_\_\_
18. What laboratory facilities and equipment are to be provided? \_\_\_\_\_
- (a) Make and range of chlorine residual test kit \_\_\_\_\_
  - (b) Other \_\_\_\_\_
19. Are daily operation records to be maintained? \_\_\_\_\_
- Specify items to be recorded \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
20. Furnish general plans of the purification plant, showing relative locations and elevations of settling basins, filters, chemical feeds, clearwell, flood protection arrangements, and other general features of the plant, indicating all pipe connections. Also, furnish detailed drawings in all cases in which these are essential to the proper understanding of the plant.

**PUMPING AND DISTRIBUTION**

21. Low service pumps:
- (a) Type and capacity of each in gallons per minute \_\_\_\_\_  
\_\_\_\_\_
  - (b) Suction lift in feet: ordinary \_\_\_\_\_; maximum \_\_\_\_\_
  - (c) Discharge head in feet \_\_\_\_\_
22. High service pumps:
- (a) Type and capacity of each in gallons per minute \_\_\_\_\_  
\_\_\_\_\_
  - (b) Suction lift in feet: ordinary \_\_\_\_\_; maximum \_\_\_\_\_
  - (c) Discharge head in feet \_\_\_\_\_
23. In regard to the pipe system for distributing the supply, furnish information as follows:

- (a) Total length of each size of pipe in entire system:
- 1-inch \_\_\_\_\_ ft    4-inch \_\_\_\_\_ ft    10-inch \_\_\_\_\_ ft    \_\_\_\_\_ ft
- 2-inch \_\_\_\_\_ ft    6-inch \_\_\_\_\_ ft    12-inch \_\_\_\_\_ ft    \_\_\_\_\_ ft
- 3-inch \_\_\_\_\_ ft    8-inch \_\_\_\_\_ ft    \_\_\_\_\_ ft    \_\_\_\_\_ ft

(b) Type of pipe to be used \_\_\_\_\_

(c) Is any portion of the pipe system to be carried over a stream on a bridge, or otherwise to be exposed? \_\_\_\_\_

If so, give methods to be used to prevent freezing \_\_\_\_\_

\_\_\_\_\_

(d) Number of fire hydrants \_\_\_\_\_

(e) Number of flushing hydrants \_\_\_\_\_

24. In case an elevated tank or standpipe is to be used, give the following information:

(a) Diameter and height, in feet \_\_\_\_\_

(b) Capacity, in gallons \_\_\_\_\_

(c) Height of top of tank or standpipe above foundation \_\_\_\_\_

(d) Height of top of tank or standpipe above area of major use \_\_\_\_\_

(e) How is tank or standpipe to be covered? \_\_\_\_\_

(f) High water level with respect to existing tanks \_\_\_\_\_

(g) Capacities of existing tanks \_\_\_\_\_

\_\_\_\_\_

25. If a pressure tank is to be used, give size, and pressure range \_\_\_\_\_

\_\_\_\_\_

26. In case a ground level or below ground level reservoir is to be used, give information as follows:

(a) Shape, dimensions, and capacity when full \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(b) Height of water level, when reservoir is full, above area of major use \_\_\_\_\_

\_\_\_\_\_

(c) Is a provision to be made to cut out the service reservoir in case of fire, and operate under direct pump pressure? \_\_\_\_\_

\_\_\_\_\_

27. Furnish plans showing all details of the facility for which this application is made such as, source of supply, transmission main, distribution system, and water storage tanks. Also furnish specification for all equipment included in the project and for all installation procedures where applicable.

28. Give name of person or firm responsible for engineering \_\_\_\_\_  
\_\_\_\_\_

29. How and by whom is the work of construction to be supervised? \_\_\_\_\_  
**City of Olathe Inspectors** \_\_\_\_\_

30. Give name of well driller: \_\_\_\_\_  
\_\_\_\_\_

**AUTHORITY**

31. Name and address of proper official to be contacted: **Jim Hayhow, City Engineer** \_\_\_\_\_  
**City of Olathe, 100 E. Santa Fe, Olathe, KS** \_\_\_\_\_

Signature of proper official \_\_\_\_\_  
**Jim Hayhow, City Engineer** \_\_\_\_\_

State of Kansas, County of \_\_\_\_\_, ss.

SWORN TO AND SUBSCRIBED before me, a notary public in and for said county and state, this \_\_\_\_\_ day of \_\_\_\_\_.

(SEAL)

\_\_\_\_\_  
*Notary Public*

My commission expires \_\_\_\_\_