

**NOTICE OF INTENT TO GRANT A PERMIT
AUTHORIZING THE USE OF WATER
FOR MUNICIPAL TYPE PURPOSES
IN PLYMOUTH COUNTY, IOWA**

Notice is hereby given that pursuant to Iowa Code Chapter 455B, there is now on file with the Iowa Department of Natural Resources, 6200 Park Ave, Suite "200" Des Moines, Iowa 50321 an application as described below.

The City of Hinton, Iowa DNR Log Number 34,783, requests a modified water use permit authorizing the withdrawal of water from two existing Cretaceous Dakota Sandstone wells 270 feet and 373 feet deep respectively, and one new Cretaceous Dakota Sandstone Aquifer well, approximately 302 feet deep, all on land generally described as the NE ¼ of Section 8 and the NE ¼ of Section 17, all in T90N, R46W, Plymouth County, Iowa, in the maximum quantity of 65 million gallons per year at a maximum rate of 445 gallons per minute throughout each year for municipal purposes within and without the permittee's corporate limits consistent with its municipal distribution system and other provisions of law.

The Department has determined that this use of water conforms to the relevant criteria (Iowa Code Chapter 455B and Iowa Administrative Code Chapter 567) and recommends the permit be granted. A copy of the summary report for the application is available upon a request to the Department at the address listed above. Comments on the report and on this use of water must be received by OCTOBER 14, 2026, and should be addressed "ATTN.: Water Supply Engineering Section" and should specify the applicant's log number 34,783.

(By Michael K. Anderson, P.E.)

IOWA DEPARTMENT OF NATURAL RESOURCES
WATER USE PERMIT SUMMARY REPORT

Applicant: City of Hinton

Application Iowa DNR Log No.: 34,783

The City of Hinton, Iowa DNR Log Number 34,783, requests a modified water use permit authorizing the withdrawal of water from two existing Cretaceous Dakota Sandstone wells 270 feet and 373 feet deep respectively, and one new Cretaceous Dakota Sandstone Aquifer well, approximately 302 feet deep, all on land generally described as the NE $\frac{1}{4}$ of Section 8 and the NE $\frac{1}{4}$ of Section 17, all in T90N, R46W, Plymouth County, Iowa, in the maximum quantity of 65 million gallons per year at a maximum rate of 445 gallons per minute throughout each year for municipal purposes within and without the permittee's corporate limits consistent with its municipal distribution system and other provisions of law.

The modification requests the addition of the new well as described above.

1. According to the U.S. Census, the population of Hinton was 697 in 1990 and 808 in 2000, demonstrating an upward trend regarding population growth. The Community of Hinton is located approximately 5 miles northeast of Sioux City, and is therefore impacted by growth that Sioux City experiences. Therefore, the increase in quantity requested by the City of Hinton appears reasonable.
2. The water source consists of three Dakota Sandstone wells. Constructed in 1974 with an 8-inch casing extending to a depth of 200 feet, Well No. 4 is 270 feet deep and is fitted with a 220 gpm capacity pump. Constructed in 1989 with an 8-inch casing extending to a depth of 340 feet, Well No. 5 is 371 feet deep and is fitted with a 215 gpm capacity pump. According to information available to the department, the nearest neighboring water user requiring the diversion of water in sufficiently large proportions to require a water use permit is Hallett Materials (Permit No. 6375), which is located in excess of $\frac{1}{3}$ of a mile to the east from the applicant's withdrawal site, and is an authorization to store water. The next nearest large user is Goose Creek Ranch (Permit No. 5201), which is located in excess of 1 mile to the south from the applicant's withdrawal site, and represents a direct withdrawal from the Floyd River. Whereas these users represent authorizations that will not influence each other, and all other applicable users are a significant distance apart as to prevent the likelihood of interference, the Department does not anticipate any negative impacts upon any nearby users (who currently hold an active water use permit with the Department) as a result from the modified withdrawal from the applicant.
3. Iowa Geological Survey records, and information submitted by the applicant, indicate the nearest known neighboring non-regulated user (private) is located in excess of $\frac{1}{4}$ of mile to the northwest from the applicant's withdrawal site. Whereas there have not been any known complaints filed on record with the department since the applicant's original permit has been issued in 1977, and the users are a significant distance apart as to prevent the likelihood of interference, the Department does not anticipate any negative impacts upon any nearby users as a result from the modified withdrawal from the applicant. In any event, the interests of individuals using water for domestic purposes, as well as those persons benefiting from existing permits, are amply protected, in the event of substantial injury, pursuant to Section 455B.271, Code of Iowa.
4. The water source consists of Cretaceous Dakota Sandstone as described above. The aquifer is very loosely associated in this area with the Floyd River drainage basin system. The geology of the northwest Iowa study area is characterized by a sequence of unconsolidated upper Cenozoic (less than about 5 million years) deposits, overlying Mesozoic Cretaceous (about 100 million years) sandstones, shales, and limestones, Paleozoic (520 million to 280 million years) sandstones, shales, and limestones, and Precambrian (2.8 billion to 1.1 billion years) quartzites, granites, and related rocks. The major sources of groundwater in this area are the sandstones in the Cretaceous Dakota Formation.

5. Most of the water-producing sandstones in the Dakota Formation are found in the basal Nishnabotna Member, although scattered sandstones in the overlying Woodbury Member also yield significant amounts of groundwater. Iowa Geological Survey geologists have defined the Lower Dakota aquifer as the water-bearing sandstone and conglomerate units of the Nishnabotna Member and the directly adjacent and hydrologically contiguous sandstone bodies in the overlying Woodbury Member. An intensive one-year study of the geology and hydrogeology of this formation was undertaken to provide a more quantitative assessment of the aquifer, and to construct a groundwater flow model that can be used as a planning tool for future water development/beneficial use.
6. A numerical groundwater flow model of the Lower Dakota aquifer was developed using four hydrogeologic layers. The model was created using Visual MODFLOW version 4.2. Hydrologic processes include net recharge, hydraulic conductivity, specific storage, flow through boundaries, no flow boundaries, well discharge, river boundary, and groundwater upwelling. Insertion of this water usage into the numerical model indicates that the aquifer can support this usage.
7. Under normal conditions the aquifer, being associated with a large drainage basin system and an extremely productive formation, will not be subject to depletion or experience an extended cone of depression as a result of water withdrawals made at this low magnitude and rate. Also, during the entire term of various irrigation permits in the area, there has been no noticeable effect on either the general water table near Hinton, or any of the nearby wells in this general vicinity.
8. Whereas the Department has received no allegations of public or private damage resulting from the use of water authorized under the predecessors to this permit since the original permit was granted in November, 1977, the increased amount is justified by law, barring compelling circumstances that mitigate to the contrary.

The applicant is devoting a reasonable amount of water to a beneficial use (Municipal usage including human consumption and human sanitation). There is no evidence that the use of water pursuant to a permit granted in accordance with the conclusions contained herein will constitute a waste of the water resources of the State, will be incompatible with the state comprehensive plan for water resources, will impair the effect of pollution control laws of this State or the navigability of and navigable watercourse, or will be detrimental to the public interest or to the interests of property owners with prior rights who might be affected.

THEREFORE:

The requested use of water conforms to the relevant criteria in Division III, Part 4, Chapter 455B, Code of Iowa and Chapter 50 of Part 567, Iowa Administrative Code. No adverse effect upon other water users is foreseen at this time. Following publication of notice and subject to revisions in response to comments that may be submitted, the attached draft permit should be issued for a period of ten years.

Water Supply Engineering

Date:

**IOWA DEPARTMENT OF NATURAL RESOURCES
WATER USE PERMIT**

Permit issued to: **Permit Number:** 4781-M6

CITY OF HINTON **Effective:** xxx

PO BOX 1023

HINTON IA 51024-1023 **Expires:** xxx

The Permittee is authorized to:

withdraw water from two existing Cretaceous Dakota Sandstone wells 270 feet and 373 feet deep respectively, and one new Cretaceous Dakota Sandstone Aquifer well, approximately 302 feet deep, all on land generally described as the NE ¼ of Section 8 and the NE ¼ of Section 17, all in T90N, R46W, Plymouth County, Iowa, in the maximum quantity of 65 million gallons per year at a maximum rate of 445 gallons per minute throughout each year for municipal purposes within and without the permittee's corporate limits consistent with its municipal distribution system and other provisions of law.

This authorization to withdraw water has been granted pursuant to the provisions of Part 4 of Division III of Chapter 455B, Code of Iowa, and Chapter 50 of Part 567, Iowa Administrative Code, and is further subject to the general permit conditions within this permit.

Conditions of this permit may be appealed as provided in rule 567--50.9, Iowa Administrative Code. Appeal must be in writing and must be received at the Iowa Department of Natural Resources, Water Supply Engineering Section, 502 E 9th Street, Des Moines, Iowa 50319-0034 within thirty days of the date of the certification of the mailing of the permit.

FOR THE DIRECTOR:

By: **Date Executed:** xxxxx

cc: Field Office No. 3 - SPENCER
Permit File

CERTIFICATE OF MAILING

On the date shown below, a copy of the foregoing permit was mailed to the Permittee and to each person entitled to receive a copy as provided by rule 567--50.8(2), Iowa Administrative Code.

Certified by (initials): _____ Date: _____

GENERAL PERMIT CONDITIONS

1. Permittee shall maintain accurate and up-to-date records of monthly water use from each authorized source and submit them annually to the Department.
2. Permittee may be required to submit other information related to the regulation of this use of water as directed by the Department.
3. Permittee shall be responsible for securing and complying with all applicable provisions of state law, the rules and regulations of this Department, and of all federal and local health and water pollution control agencies in the operation of this facility.
4. Permittee shall be responsible for notifying the Department when there are changes to any conditions and authorizations given in this permit, including additional water source(s), well(s), intake(s), an expansion of the facility, or any other listed condition.
5. Permittee shall construct, maintain, and monitor observation wells as directed by the Department to define the effects of Permittee's water withdrawals on groundwater resources or on other water users who might be affected by the withdrawals authorized herein.
6. Each well authorized as a source of water in this permit must be constructed to allow for accurate measurement of water levels.
7. Withdrawals from permitted wells may be made only after the Permittee has made the following information available to the Department: well location(s), well log(s), and results of yield tests. Required chip samples shall be submitted to the Iowa Geological Survey.
8. Permittee shall be responsible for accurately measuring depth to water under non-pumping (static) conditions, depth to water under pumping conditions, and pumping rate(s) for all active wells listed in this permit, at a minimum of one measurement per year. These records shall be submitted annually to the Department.
9. If the Department determines that withdrawals from the Dakota Formation of the Cretaceous System within a designated geographical area are causing water level declines which constitute a significant threat to the public interest in the availability of water for sustained beneficial use of the aquifer, renewal of this permit shall be denied, and the permit shall be modified or canceled in accordance with the procedures specified in Iowa Code Section 455B.271, as necessary to protect the aquifer for sustained use.
10. Permittee shall submit to the Department within 90 days of being notified by the Department or no later than the expiration date of this permit, whichever first occurs, a plan for implementing routine day-to-day water conservation measures and for implementing emergency water conservation measures during periods of water shortage. Until such a plan has been submitted to and approved by the Department, Permittee shall implement those emergency water conservation measures determined to be necessary by the Department pursuant to Iowa Code Sections 455B.265 and 455B.266.
11. This permit supersedes Water Use Permit No. 4781-R5.

CAVEAT

Permittee is advised that pursuant to Section 455B.271, Code of Iowa, the authority to withdraw water provided by this permit may be modified, canceled or suspended in case of any breach of the terms or conditions herein, in case of any violation of state law pertaining to the permit, or if found necessary to prevent substantial injury to private or public interests.