

Considered: _____

WATER PERMIT NO. 5161-3

MAP No. same 785-3602

Name of Applicant City of Lake Norden

Post Office Address P.O. Box 213, Lake Norden SD 57248

Amount of Water Claimed 0.33 cfs (100 ac-ft annually) Total Acres N

Source of Water Supply Big Sioux Aquifer 1 well

Water to be used for municipal supply County Hamlin

About 1 mile N of Lake Norden.

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

F.F. & C.L. Adopted _____ Not Approved _____ Deferred _____

PRIORITY _____ Date Received Nov 4, 1987 Fee 150⁰⁰ Remarks place water to beneficial use reserved by Future Use Permit No. 4055-3

Corrected Application Received _____ Period of Annual Use _____

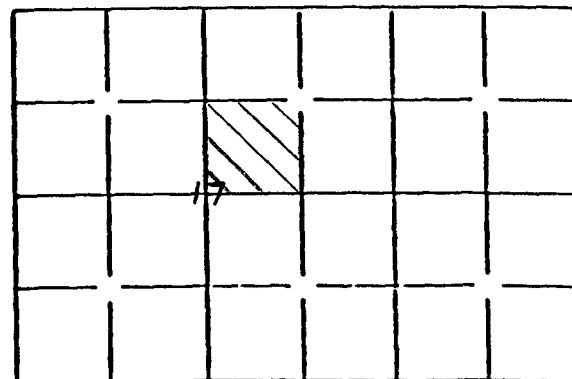
WATER QUALITY APPROVAL RECEIVED NA APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as Application YES _____ NO _____ REMARKS _____

Diversion Point well: SW 1/4 NE 1/4 section 17-

T113N-R53W

Land to be Irrigated NA



Well Log: Driller Bullis Brothers Licensed YES _____ NO _____

Depth of Well 30 feet REMARKS _____

Type of Map topo PREPARED BY Daniel L. Bjerke Reviewed and the Number

assigned on Dec. 8, 1987 By Ron Duwall

Mail to: Water Rights Div.
DWNR, Foss Bldg.
Pierre, SD 57501
(605) 773-3352
PL 10/23/87

No. _____ Hydrologic Unit _____
Map No. _____ Basin _____
Newspaper _____

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water: Industrial ☐ Commercial ☐ Municipal ☒ Other Common Distribution System ☐
Rural Water System ☐ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
Domestic ☐ (above 18gpm) Other ☐

Type of Application: Check one or more of the following

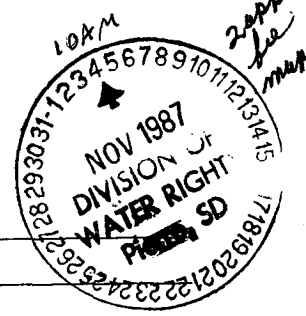
New ☒ Vested Right ☐ Future Use ☐ Change Use ☐

☐ Amend Permit No. _____ with old priority date retained

Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☐

☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____

☒ Construction to use water reserved by Future Use Permit No. 4055-3



1. Name of Applicant City of Lake Norden Phone No. (605) 785-3602

Post Office Address P.O. Box 213, Lake Norden State S.D. 57248
(Street, RR or Box) (City) Zip Code

2. Amount of water claimed (c.f.s.) 0.33 (150 GPM) 100 Ac.-ft. Annually

3. Source of water supply Big Sioux Aquifer 1 WELL

4. Location of point of diversion SW 1/4, NE 1/4, Section 17, T113N, R53W, 5th P.M.

County Hamlin

5. Counties where water will be used Hamlin

6. Annual period during which water is to be used Year-round January 1 - December 31

7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

30 foot well for water supply (see attached drillers log and proposed well construction).

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

STATE OF SOUTH DAKOTA)
County of Hamlin)^{ss}

I, Larry Steffensen, Mayor of the City of Lake Norden, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed Larry Steffensen

Subscribed and sworn to before me this 2nd day of November 1987

Balson W. Miller

My Commission Expires June 25, 1994

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. 5161-3
City of Lake Norden PO Box 213
(Applicant) (Street, RR or Box)
Lake Norden SD 57248 With the following qualifications.
(City) (State) (Zip Code)

SEE ATTACHED SHEET

Date of first receipt of application November 4, 1987.

Date of return to applicant for correction, amendments or changes required _____, 19____.

Date of receipt of corrected application _____, 19____. Approved March 3, 1988.

The Water Management Board approved this Water Permit No. 5161-3 authorizing the construction of the water use system and the placing of water to beneficial use as stated in the Application and as qualified in the Water Permit approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is see Future Use
Permit No. 4055-3 March 14, 1977.
2. The equivalent of at least one-fifth of the specified work is to be completed on or before
September 3, 1990.
3. The whole of said work is to be completed on or before March 3, 1993.
4. The limit of time for proof of beneficial use of water appropriated in accordance herewith is
March 3, 1997.
5. The water appropriated shall be used for the purpose of municipal use by the City
of Lake Norden
6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be unlawfully impaired by this appropriation.
7. The amount of the appropriation granted shall not exceed (100 acre-feet annually)
0.33 cubic feet per second; neither shall it exceed the amount of water needed for the beneficial uses served and to which water is actually and beneficially applied for municipal use on or before March 3, 1997. The water is to be used during the following described annual period: Jan 1 - Dec 31

WATER MANAGEMENT BOARD

By: John Hatch
Chief Engineer

Division of Water Rights
Dept. of Water and Natural Resources

APR 28 1988, 19____

Qualifications for Water Permit No. 5161-3 City of Lake Norden

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Approval of this Permit authorizes maximum annual withdrawals of 100 acre-feet.
3. That the City of Lake Norden report to the Chief Engineer annually the amount of water withdrawn each year from the well authorized by Permit No. 5161-3 and the total annual water use by the City of Lake Norden.
4. Approval of this Permit authorizes well construction pursuant to Variance No. 64, 1987 from Water Management Board Well Construction Standards, Chapter 74:02:04. Well Construction shall be by a licensed well driller.

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction

- a) Drill Hole Diameter 22 inch Depth 30 feet
- b) Casing Type steel Diameter 10 inch Thickness 1/4 inch
- c) Screen Type stainless steel Diameter 10 inch Thickness 1/4 inch
- d) Gravel Pack Thickness 3 1/2 inches Length of Gravel Pack 10 feet
- e) Depth to Top of Water Bearing Material 6 feet
- f) Depth to Water (ground surface to water level) 6 feet
- g) Distance to nearest existing domestic well:
- On applicants property _____ On property owned by others 1/4 mile

2. Dugout Information Estimates

- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

3. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam please give their name and address

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____
If Pipe, diameter _____

f) Secondary Spillway Capacity _____
Spillway width _____

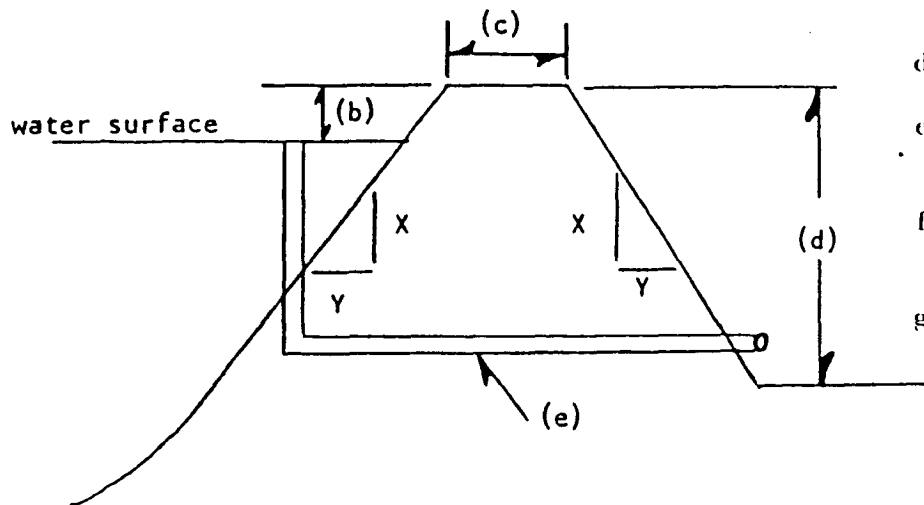
g) X & Y Slope
Upstream _____

Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____

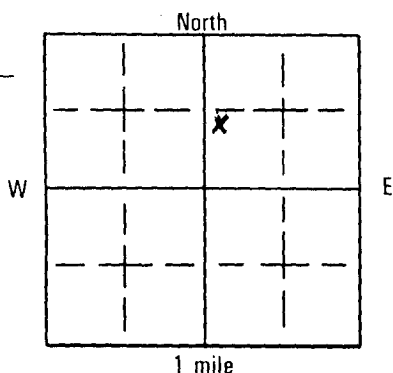


Signature of Applicant _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT 5161-3

Location SW 1/4 NE 1/4 Sec 17 Twp 113N Rg 53WCounty Hamlin

Please mark well location with an "X"

Well Completion Date 3-3-88PROPOSED USE: Production well

☐ Domestic ☒ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock

Method of Drilling:

Bucket Rig + Suction Bailer

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
53.22 LB/FT	18 IN	0 FT	19 FT	24 IN
40.48 LB/FT	10 IN	0 FT	19 FT	17 1/2 IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUT:

Was the well grouted? ☒ YES ☐ NOTo what depth? 19 FEETWhat is grouting material? CementIf cement, number of sacks? 40Describe grouting procedure Pressure Grout by Tremie pipe

What was grout weight? _____ LB/GAL

SCREEN: ☐ Perforated pipe ☒ ManufacturedDiameter 10 IN Length 10 FEETMaterial STAINLESS STEELSlot Size .070 Set From 20 Feet To 30 Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Other information _____

Was a packer or seal used? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

Was well disinfected upon completion? ☒ YES ☐ NOExplain Chlorine injected during Jetting
Also during gravel packingBacteriological analysis ☐ YES ☒ NO

Laboratory sent to _____

Well Owner:

Name Lake Nordon, C.Address Lake Nordon, S.D. 57248

Well Log:

Depth

Formation	From	To
Black Soil	0	3
Yellow Sand	3	10
Gray Sand (med)	10	18
Gray Sand (Fine to med)	18	20
Gray Sand (med to coarse)	20	25
Gray Coarse gravel	25	28
Blue Clay	28	30

All Sand + Gravel
has some very fine
material
Also a lot of shale

STATIC WATER LEVEL 6 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other; specify _____

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped☐ Bailed

Describe: _____

☐ Other

Pumping Level Below Land Surface

<u>18 1/2</u> ft.	After <u>4</u> Hrs.	pumped <u>118</u>	GPM
<u>21 1/2</u> ft.	After <u>20</u> Hrs.	pumped <u>117</u>	GPM
<u>25</u> ft.	After <u>48</u> Hrs.	pumped <u>115</u>	GPM

REMARKS:

This well was drilled under license # 4

And this report is true and accurate.

Drilling firm Bullis Bros.

Signature of License Representative:

Se Roy Bullis

Signature of Well Owner:

Larry H. H. H. H.Date 3-3-88

MAP TO ACCOMPANY WATER RIGHT APPLICATION

(Proposed Well Location - SW $\frac{1}{4}$, NE $\frac{1}{4}$, Section 17, T113N, R53W, Fifth P.M.

LAKE NORDEN
SPILLWAY ELEVATION 1654

16

Recreation Area

Lake Norden

Sewage Disposal
Ponds

Olivet Cem

SURVEYOR'S CERTIFICATION

I, Daniel L. Bjerke, Registered Professional Engineer and Land Surveyor in the State of South Dakota hereby certify that at the request of the Owner I have shown the proposed location of the water well on the map shown above and that the map is a true and correct representation of the location of the water well.

SD Registration No. 2904

5161-3

T113N

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51 MI. TO S. DAK. 37
BRYANT 11 MI.

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LAKE NORDEN TEST WATER WELL

APPROXIMATELY LOG

LOCATION -- NE 1/4 of Section 17, Township 113 North, Range 53 West
Hamlin County, South Dakota

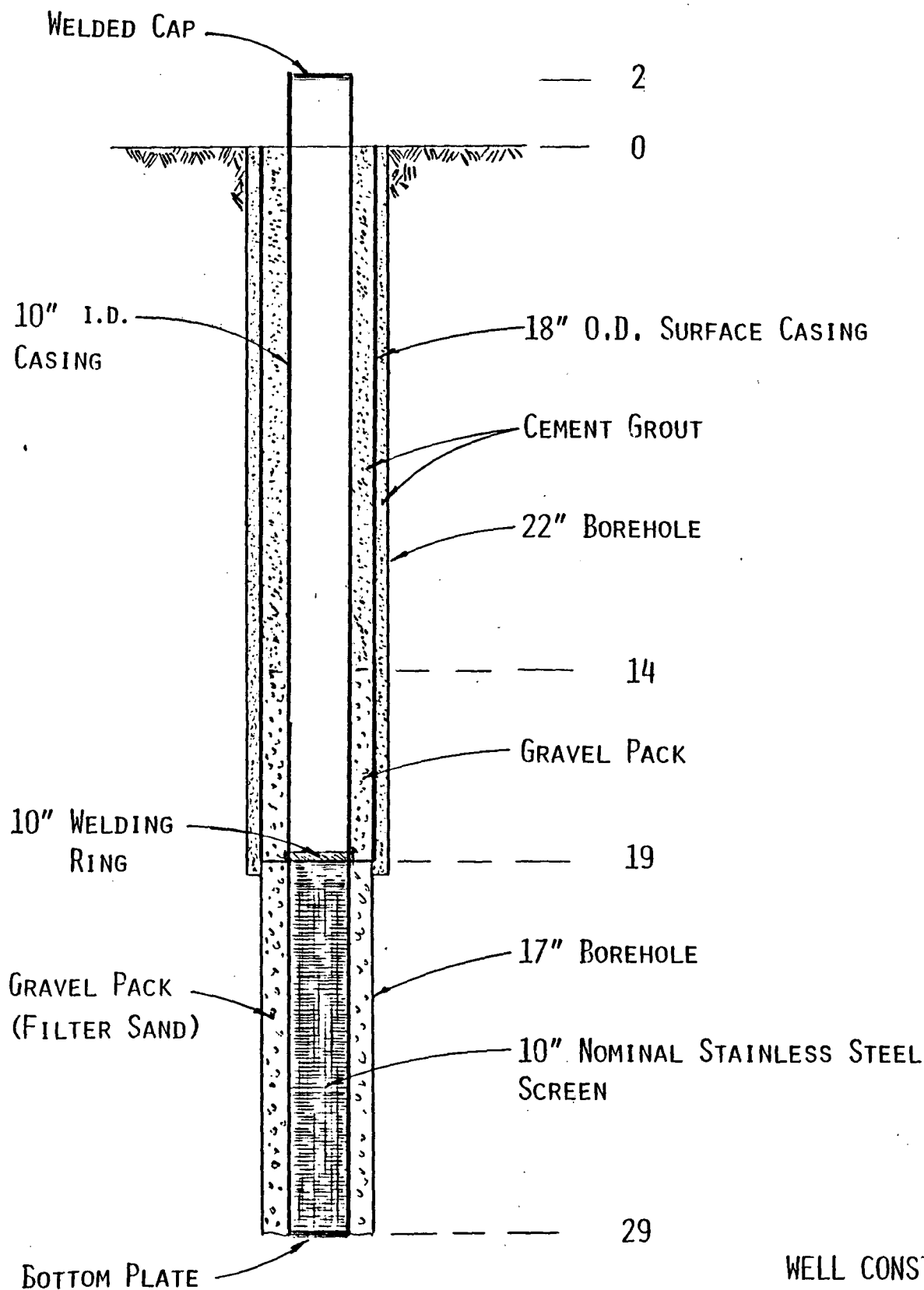
DRILLED -- September 8, 1987

WELL DRILLED BY -- Bullis Brothers, Watertown, South Dakota

LOG SAMPLES DESCRIBED BY BULLIS BROTHERS

0 - 3	Black Soil
3 - 10	Yellow Sand
10 - 18	Gray Sand (Medium)
18 - 20	Gray Sand (Fine to Medium)
20 - 26	Gray Sand (Medium to Course)
26 - 29	Gray Sand (Course to Gravel)
29 - 40	Blue Clay

All Sand and Gravel has some very fine material.
Also some shale



WELL CONSTRUCTION
DETAILS

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

411036

Pierre, November 4, 1987

RECEIVED OF City of Lake Norden, PO Box 213, Lake Norden, SD 57248

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct works and to put water to beneficial use _____	150	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	150 00

By

Chief Engineer

John Hatch

JOHN HATCH (MS)

5161-3

WATER RIGHTS DIVISION
(605) 773-3352

October 23, 1987

Dan Bjerke
The Alliance
PO Box 1385
Watertown, South Dakota 57201

Dear Mr. Bjerke:

This letter is in response to our phone conversation on October 23, 1987. Enclosed are water permit application forms to be completed for Lake Norden's proposed well. I have located a copy of the report completed by The Alliance with the required well construction information.

Please contact us if you have any questions regarding completion of the applications.

Sincerely,

Ron Duvall
Natural Resources Engineer

RD:ms
Enc.

WATER WELL NO. 4
LAKE NORDEN, SOUTH DAKOTA

#89-104

EPA PROJECT NO. 05-01-02261

OCTOBER 1987

W87-25

TECHNICAL SPECIFICATIONS
WELL MATERIAL, EQUIPMENT AND
DRILLING PROCEDURE

LOCATION

The well is to be located approximately one-half mile west and three-fourths mile north of the Town of Lake Norden, South Dakota. The well is to be located in the southwest quarter of the northeast quarter of Section 17, T113N, R53W, Fifth Prime Meridian (Figure 1).

The Owner shall furnish such land as the Contractor may reasonably require for storage of materials and equipment and for the necessary pits, ect. The Owner shall not be liable for damage to adjoining property resulting from the Contractor's operations.

LOG OF FORMATIONS

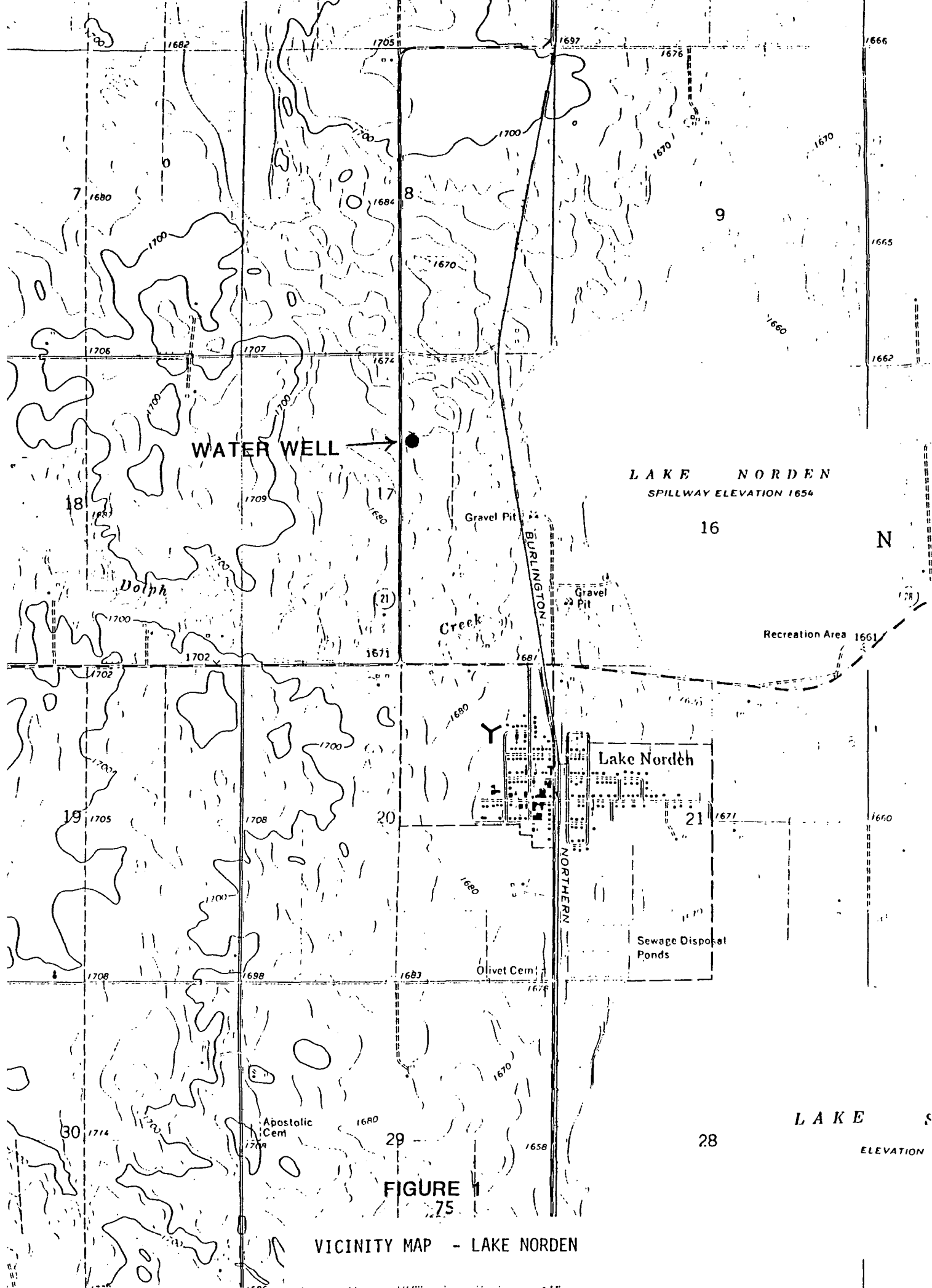
It is expected that most of the drilling will be through sand and medium to coarse gravels. A log of a test well at this location is included for the Contractor's information only. Additional data of other test wells within the area is also available from the Owner or Engineer upon request. However, the Owner or Engineer makes no guarantee as to the material or formations that will be encountered.

MATERIALS

A. Casing: The casing shall be new black steel pipe. The Contractor shall furnish manufacturer's certified statements as to the grade and weight of the pipe furnished. The casing shall meet the standards of the latest edition of the American Petroleum Institute specification for Line Pipe. No mill reject material will be accepted. All casing shall be J-55 or better.

(1) 18 inch O.D. surface casing shall have a nominal weight of 53.18 pounds per lineal foot with plain ends.

(2) 10.75 inch O.D. casing shall have a nominal weight of at least 35.75 pounds per lineal foot, including couplings. This casing is to be installed on the upper end of the screen by



B. Grout: The grout shall be a mixture composed of Portland Cement and water. Not over six gallons of water per cubic foot of cement shall be used. An additive shall be used with the cement to decrease the weight to approximately the weight of the drilling mud.

C. Screen: The screen shall be nominal 10 inch size stainless steel screen as manufactured by Edward E. Johnson, Inc. or Cook Well Strainer Company, or approved equal. It is expected that the slot size will be 80 thousandths of an inch, but the exact determination will be made by the screen manufacturer based on the analysis of the formation samples. A plate bottom will provide the needed closure for the lower end of the screen.

D. Gravel Pack Material: The gravel pack shall be graded as recommended by the screen manufacturer. The sand used for the gravel pack must be furnished by a firm specializing in producing this kind of material such as a Number 15 pack made by the Eau Claire Sand and Gravel Company of Eau Claire, Wisconsin, or a Number 3 pack by Northern Sand and Gravel at Muscatine, Iowa, or approved equal. The Contractor shall have on hand before starting to set and gravel pack the screen, at least one and a half (1-1/2) cubic foot of sand for each foot of screen to be set plus 15 cubic feet. The sand shall be silica of uniform size with rounded grains.

INVOICE FOR MATERIALS

The Contractor shall furnish to the Engineer a certificate or invoice for all materials delivered to the job site including casing, cement, screen, pumping equipment and controls. The certificate or invoice shall describe the material delivered including weight, class or grade and quantity.

RECORD OF CASING INSTALLED

The Contractor shall keep an accurate record as assembled of the order, number, size and lengths of the individual pieces of pipe and screen and all other material or equipment installed in the well.

CONTRACTOR'S QUALIFICATIONS

The Contractor may be required to provide satisfactory proof of his financial and technical ability to construct a well of this type. He shall have had previous experience in constructing

wells of this depth and diameter. He may be required to submit proof that he has adequate equipment and experienced personnel to perform all work required.

EQUIPMENT

The Contractor shall provide all tools, derricks, engines, pumps and other machinery and equipment of whatever description that is necessary to complete all work specified or implied herein. The machinery, tools and equipment shall be in good condition and adequate to perform all work required in accordance with these specifications.

PITS

Pits shall be large enough so that no appreciable amount of cuttings shall be carried through the pits and circulated back down the well. The Engineer may require the pits to be enlarged or additional pits to be constructed if it is determined that the cuttings are being carried through to the pump intake.

TESTING AND PUMPING EQUIPMENT

The Contractor shall furnish the necessary equipment and qualified personnel to perform all testing and pumping required by these specifications and keep an accurate record of all such tests. Equipment to be furnished shall include, but is not necessarily limited to the following:

A. A pump and motor capable of pumping 150 gallons per minute from a depth of 30 feet continuously for at least 48 hours.

B. An accurate measuring device to measure the quantity of water pumped. This measuring device shall consist of a meter or calibrated weir or other acceptable device. The equipment shall be also capable of accurately measuring the depth of the water surface while pumping.

After the well has been completed, the pits shall be cleaned out and backfilled. The area around the well will be cleaned up of all materials used by the Contractor including cement sacks, lumber, thread protectors, ect. The site should be left in a neat and "finished" condition.

LOG RECORD AND SAMPLES

The Contractor shall keep an accurate record of the location of the top and bottom of each stratum penetrated and shall save and deliver to the Engineer a sample of the material taken from each five feet of drilling and at every change in formation. Each sample shall be enclosed in a suitable container plainly labeled

with the depth at which taken and the date taken. The containers shall be furnished by the Contractor.

A written log of the well shall be kept by the Contractor's superintendent and shall include the top and bottom depths of each formation, a description of each formation and the drilling time for each five feet of depth. A copy of this written log shall be available to the Engineer at all times.

The failure on the part of the Contractor to obtain, preserve and deliver such samples or records to the Engineer shall be considered an actual damage to the Owner and shall authorize the Owner to retain from monies due or to become due the Contractor the sum of \$ 25.00 as liquidated damages for each sample that the Contractor fails to provide.

SURFACE CASING

The Contractor shall drill 19 feet of a minimum 22 inch diameter borehole. The 19 lineal feet of 18 inch O.D., 53.18 pound casing shall include two sets of centralizers to provide a uniform grout thickness. The surface casing shall be checked before grouting to insure that it is set vertically in the hole. The grouting operation including materials, method of mixture, consistency, method of application and period for setting shall be as required for grouting the other casing on this project.

Drilling to the depth of approximately 19 feet shall be paid for at the unit bid price per foot of actual depth drilled at that minimum 22 inch diameter.

Payment for this section of the contract shall be made at the bid price per lineal foot of 18 inch casing actually furnished and set. No extra payment will be made for centralizers, plugs or for other incidental work or materials required.

GROUTING THE CASING

The annular space between the surface casing and hole shall be filled with cement grout. The grout shall be proportioned of cement and the minimum quantity of water (not over six gallons per cubic foot of cement) required to give a mixture of such consistency that it can be forced through the grout pipes. The mixture, method of mixing and consistency of grout shall be approved by the Engineer. An additive shall be used to reduce the weight of the grout to approximately that of the drilling mud.

A drillable cementing plug or float shoe shall be installed in the casing which is suspended approximately six inches from the bottom. The grout shall be forced out through the casing bottom to completely fill the annular space between the casing and the walls of the borehole from the bottom of the casing to the top. At the time the grouting is done, five one-pint test samples in cardboard cartons of the actual grouting mixture shall be furnished to the Engineer. After the grouting is completed, all work on the well shall be suspended for at least twenty-four hours or up to forty-eight hours if, in the opinion of the Engineer, the test samples have not "set" sufficiently hard in the twenty-four hour period.

The Contractor shall also be required to grout a second time following the installation of the 10 inch casing, screen and the gravel pack.

Before starting the grouting operation, the Contractor shall submit a detailed explanation to the Engineer of the exact method he proposes to use. The Engineer may approve variations from the method outlined herein if he believes the variations proposed will produce satisfactory results.

Payment for grouting shall be made in two parts as follows:

A. "Mobilization of Grouting Equipment and Material" shall be paid for at the lump sum price for this item. Only one such payment shall be made even though the Contractor will move the grouting equipment onto the site at least two times; the first time to grout the surface casing and the second time to grout the top of the 10 inch casing.

B. For furnishing and pumping into place, the cement and lightweight additives, the Contractor shall be paid his contract price for each 94 pounds of grouting material actually used in the grouting operation. This payment and the payment listed in paragraph "A" above shall be considered full compensation for furnishing all labor, materials, and equipment needed to complete the grouting of the casing as specified above.

C. The two payments listed above shall be considered full compensation for completing all grouting with no extra payments made for labor, equipment, or materials or for rig time, shut-down time or other lost time.

DRILLING THE 17 INCH BOREHOLE

After the surface casing grout has set the required time, the Contractor shall continue drilling from the bottom of the 18 inch surface casing with a 17 inch diameter bit. Drilling shall continue until the drill hole has reached the 29 foot level or as directed by the Engineer. The Contractor shall make a careful effort to detect changes in the formation being drilled and shall record and take samples of such changes. The borehole shall not vary more than two degrees from vertical, and the hole shall be straight enough to allow the satisfactory use of a commercial submersible pump.

When the drilling has been completed, the drill pipe shall be run to the bottom of the hole and clear water circulated through the well to remove all drilling mud and cuttings. The lower end of the drill pipe shall be equipped with an acceptable means of diverting the water against the sides of the open hole to remove all mud cake.

Payment for this section of the contract shall be made at the bid price per lineal foot for drilling the 17 inch borehole.

FURNISHING AND SETTING 10 INCH CASING, SCREEN AND GRAVEL PACKING

Before starting this part of the work, the Contractor shall submit to the Engineer for approval a detailed description of the method he proposes to use in setting the 10 inch casing, screen and gravel pack.

A 10 inch pipe-size screen will be used so that it can be attached directly to the 10 inch well casing. This connection shall be made through the use of a welding ring.

After the hole has been cleaned, the screen and pipe casing shall be run to the bottom of the bored hole. The pipe and screen shall be provided with centralizers at the bottom of the screen and at the top and bottom of the 10 inch casing. The centralizers shall be of a type that will expand to the diameter of the 18 inch surface casing or of the hole at the bottom of the hole but shall allow the screen to be pulled back through the 18 inch casing if necessary.

The gravel pack mixed with water shall be pumped down around the outside of the 10 inch casing and screen at the same time that the water is being returned from the bottom of the inside of the screen to the ground surface. It shall not be permissible to "dump" the sand in the casing at the surface without a positive means of placing the sand around the screen.

When the placement of the gravel pack has been completed, the Contractor shall install a plug approved by the Engineer between the 18 inch and 10 inch casing above the screen and gravel pack to preclude the entrance of cement grout into the gravel pack. The annular space between the two pipe casings shall be filled with cement grout up to the ground surface. The grout shall be proportioned of cement and the minimum quantity of water (not over six gallons per cubic foot of cement). After the grouting is completed, all work on the well shall be suspended for at least 24 hours, or until in the opinion of the Engineer, the grout is sufficiently hard.

After completion of the final grouting operation, clear water shall be circulated through the gravel pack and screen and returned to the surface from the bottom of the screen to remove all fine sand from the inside of the screen. When the return water is clear, sufficient chlorine shall be added to the water being circulated through the well to provide at least 100 parts per million of chlorine. This chlorine solution shall be circulated until the chlorine is apparent in the return water and then the circulation stopped and the chlorine left in the well.

Payment for "Furnishing the Ten-inch Nominal Screen" shall be made at the bid price per foot of screen actually furnished for this item. This payment shall be considered compensation for furnishing the screen to the site but not for installing.

Payment for "Furnishing the Ten-inch Casing" shall be made at the bid price per foot for the amount of casing actually installed. This payment shall be considered compensation for furnishing the 10 inch casing to the site but not for installing.

Payment for furnishing the filter sand shall be made at the bid price per cubic foot of acceptable filter sand delivered to the site. This payment shall be considered full compensation for furnishing the filter sand to the site but not for placing.

Payment shall be made for installing the 10 inch stainless steel screen, 10 inch pipe casing, and filter sand at the lump sum bid price for "Installing and Gravel Packing Screen." This payment shall be considered full compensation for installing the screen, 10 inch pipe casing and gravel pack, for cleaning the well and for disinfection. No separate payment will be made for centralizers, chlorine, rig time or any other labor, materials or equipment required to complete this part of the contract.

INSTALLATION OF MONITORING WELLS

The Contractor shall drill and develop at the well site as indicated on the enclosed site plan or as shown by the Engineer, two monitoring wells. The wells shall be drilled and cased with four inch diameter, schedule 40 PVC pipe. The pipe shall extend twenty-eight feet into the ground and two feet above the surface. The bottom twenty-two feet shall have slotted perforations. The top opening shall be provided with a removable cap which can be locked to prevent unauthorized entry. The pipe shall be gravel packed and the four feet at the surface shall be sealed with concrete around the outside perimeter of the pipe. These monitoring wells shall be installed and complete before the main well is developed and tested.

Payment shall be made for drilling and installing each monitoring well complete. This payment shall be considered full compensation for drilling each well and the furnishing and installation of the four inch diameter PVC, schedule 40 pipe and cap, complete. No separate payment will be made for rig time, or any other labor, materials, or equipment required to complete this part of the contract.

DEVELOPING AND TESTING THE WELL

After the well has been completed, the Contractor shall make the necessary arrangements for conducting a final pumping test. The test shall be run as hereinafter described:

A. Test Pump: The Contractor must furnish and install necessary pumping equipment capable of pumping to the required point of discharge a maximum of at least 150 GPM but with satisfactory throttling devices so that the discharge may be reduced to 25 GPM. The pump suction shall be set at a depth of at least 18 feet below the surface.

The pumping unit shall be complete with prime mover of ample power, controls and appurtenances and shall be capable of being operated without interruption for a period of up to 60 hours.

B. Auxiliary Equipment: The Contractor shall furnish all necessary discharge piping for the pumping unit, which shall be of sufficient size and length to conduct the water being pumped a distance of 25 feet from the well. He shall also furnish, install and maintain equipment of approved size and type for measuring the flow of water; such equipment to be an orifice or water meter. A water meter is preferred. To measure the elevation of the water level in the well, a 1/4 inch air line complete with guage, hand pump and valve or an acceptable electric probe with suspension wire marked at five foot intervals shall be provided. Unless otherwise permitted, the air line shall be securely fastened to the pumping unit and shall terminate five feet above the pump suction.

The Contractor shall also furnish and install similar air lines and equipment necessary to check the drawdown of the water in the two nearby monitoring wells.

C. Duration of Test: The Contractor shall furnish all labor, motive power, lubricating oil and other necessary materials, equipment, labor and supplies required and shall operate the pumping unit at such rates of discharge and for such period of time as directed. Accidental interruptions may, if so agreed upon between the Contractor and the Engineer, be compensated for by correspondingly extending the time of the completion of the test run. Time stated for the duration of the final test is an estimate only and the Engineer reserves the right to require the Contractor to extend such period of test, or to make additional tests or to reduce the time of the tests.

D. Determination of Drawdown: The main purpose of this part of the contract is to determine the drawdown level for various pumping rates. The Contractor shall accurately determine the final drawdown level for pumping rates of 25 GPM, 50 GPM, 75 GPM, 100 GPM, 125 GPM and 150 GPM or the maximum capacity of the well. The pump shall be operated at each of the above rates for a period of one hour after the water has reached a static level before increasing the pumping rate to the next pumping rate. The Contractor shall also determine and record the drawdown level on each of the monitoring wells at each of the indicated pumping rates.

After the drawdown for 150 GPM or the maximum capacity of the well at the 18 foot level has been established, the pumping tests shall be continued at that rate until the water is clear and free of sand.

E. Testing Results: The Contractor shall furnish the Engineer a complete written report on the pumping tests. The report shall include the water level recorded each five minutes from

the start of the test until the water level has remained constant for one hour at the maximum well capacity or at 150 GPM. The time of each change in pumping rate shall be shown.

F. Electrical Service: The Contractor shall be responsible for providing a permanent power supply to the site in order to conduct test pumping activities. It shall be the responsibility of the Contractor to contact the local electrical company to have them provide the electrical service at the Contractor's expense. The Contractor shall pay for all electrical charges during the test pumping.

Payment for test pumping shall be made in two payments as follows:

(1) Furnishing, installing and removing all required test pumping equipment shall be paid for at the lump sum bid price as indicated in the proposal.

(2) The pump test shall be paid for at the bid price per hour for the actual hours that the test pump is operating in accordance with the above requirements.

LAKE NORDEN TEST WATER WELL

APPROXIMATELY LOG

LOCATION -- NE 1/4 of Section 17, Township 113 North, Range 53 West
Hamlin County, South Dakota

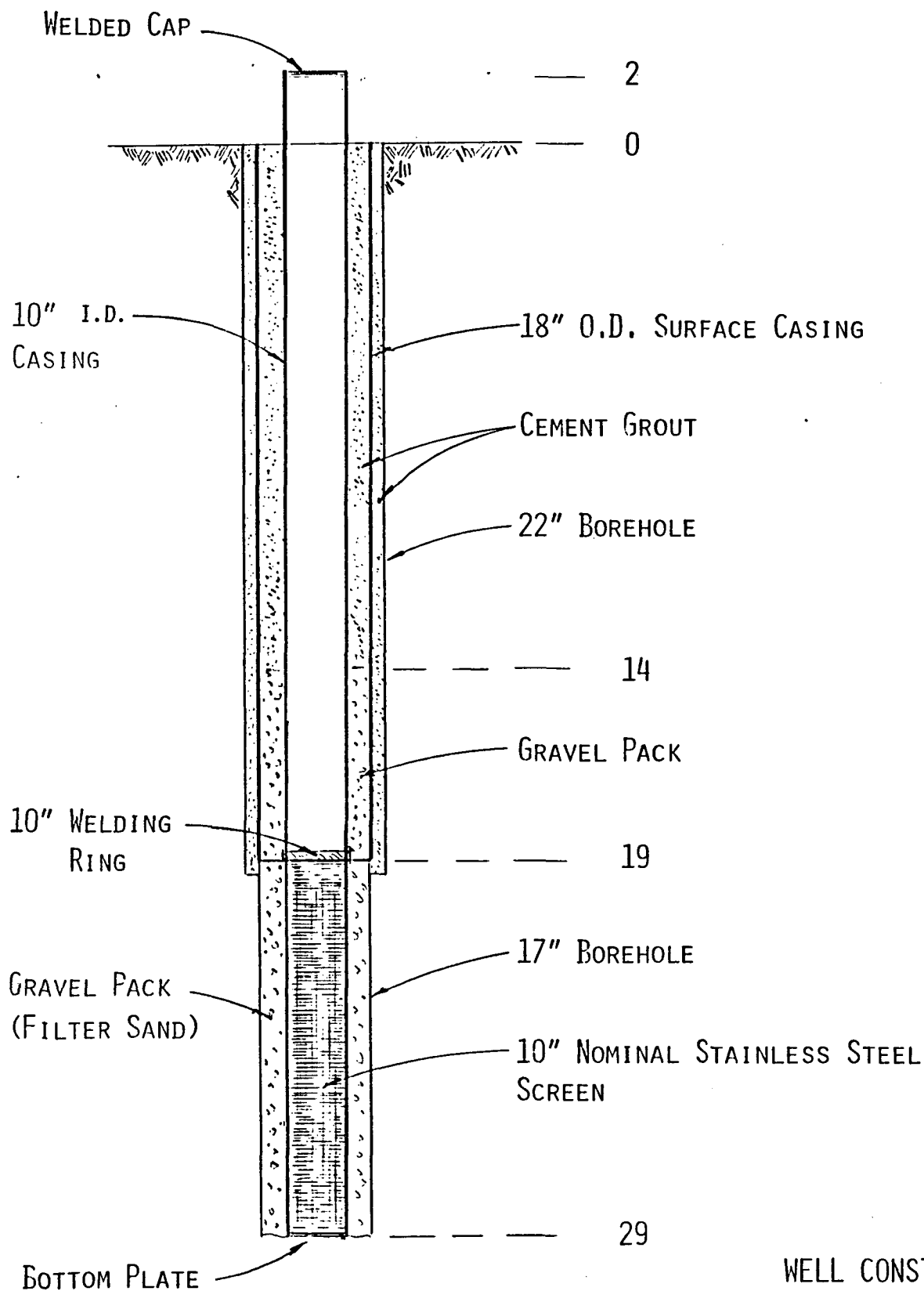
DRILLED -- September 8, 1987

WELL DRILLED BY -- Bullis Brothers, Watertown, South Dakota

LOG SAMPLES DESCRIBED BY BULLIS BROTHERS

0 - 3	Black Soil
3 - 10	Yellow Sand
10 - 18	Gray Sand (Medium)
18 - 20	Gray Sand (Fine to Medium)
20 - 26	Gray Sand (Medium to Course)
26 - 29	Gray Sand (Course to Gravel)
29 - 40	Blue Clay

All Sand and Gravel has some very fine material.
Also some shale



WELL CONSTRUCTION
DETAILS

REPORT ON PERMIT APPLICATION NO. 5161-3
CITY OF LAKE NORDON
December 16, 1987

Permit application No. 5161-3 proposes to construct works and place to beneficial use 0.33 cubic feet of water per second (100 acre-feet of water annually) reserved by Future Use Permit No. 4055-3. This application authorizes construction of one well, 30 feet deep to be located in the SW 1/4 NE 1/4 Section 17, T113N, R53W. The water is to be used for municipal purposes by the City of Lake Norden.

Aquifer: Big Sioux-Brookings

Geology and Aquifer Characteristics

The Brookings Management Unit of the Big Sioux Aquifer is an alluvium mantled, lake Wisconsin aged outwash (Beissel, 1987), composed of sand and gravel of glacio-fluvial origin, with minor amounts of silt and clay. The Big Sioux-Brookings underlies approximately 88,500 acres of Hamlin County and contains an estimated 331,880 acre-feet of recoverable water in storage in the county (Hedges, 1982). Test holes drilled by the South Dakota Geologic Survey (Jorgensen, 1966), indicate the Big Sioux-Brookings Aquifer is approximately 30 feet thick in Section 17, T113N, R53W. The aquifer is under water table conditions and the static water level is expected to be 6-8 feet below land surface. Transmissivity values for the Big Sioux Aquifer range from 20,000-42,000 ft²/d and the specific yield of the aquifer ranges from 0.10 to 0.17.

Recharge to the Big Sioux Aquifer is through infiltration of precipitation falling directly on the surface of the aquifer, runoff from adjacent areas onto the surface of the aquifer, and infiltration from the Big Sioux River when the water level of the aquifer is lower than the stage elevation of the Big Sioux River.

The Division of Water Rights monitors two observation wells in the Big Sioux-Brookings Aquifer within 2 miles of the applicant's well (hydrographs included). Water level measurements indicate the water table fluctuates seasonally in response to recharge events. The observation wells give no indication of a decline of the potentiometric surface of the Big Sioux-Brookings Aquifer.

A worst case scenario for this proposed appropriation would be if the City of Lake Norden pumped 0.3 cfs continuously until 100 acre-feet was pumped (152.8 days). Assuming a T value of 42,000 ft²/d, as S value of 0.10, and solving the equation $S = (0.3Tt)/r_o^2$ for r_o , the radius of influence for this scenario would be approximately 4,388 feet. However, Lake Norden is less than 2200 feet from the proposed well site. The lake is probably

hydrologically connected to the Big Sioux-Brookings and/or the overlying alluvium. After 38.4 days of continuous pumping at 0.33 cfs, the cone of influence from pumping this well would theoretically intersect the lake and induce leakage from the lake into the aquifer. This leakage would decrease the radius influence to less than the 4,388 feet given for the worst case scenerio.

Review of Existing Water Rights

The "1986 Irrigation Report" indicates 1,453.82 ac-ft was pumped from the Big Sioux-Brookings Aquifer in Hamlin County for irrigation (1987, Division of Water Rights).

There are three existing permit within one mile of this proposed appropriation. They include:

Permit

No.	Permit Holder	Location	cfs	Use	Acreage
141-3	Ernest Kangas	SW 1/4 8-T113-R53W	2.00	Irri.	150
557-3	City of Lake Norden	17-T113N-R53W	0.60	Mun.	--
4055-3	City of Lake Norden	8 & 17-T113N-R53W	1.32	Mun.	future use

The Division of Water Rights has record of one existing domestic well within one mile of the applicant's well site.

Conclusions

1. Permit No. 5161-3 proposes to construct works and place to beneficial use, 0.33 cfs (100 acre-feet annually) reserved by Future Use Permit No. 4055-3.
2. The Big Sioux-Brookings Aquifer is a viable aquifer and is not over appropriated.
3. This appropriation should have no adverse effects on existing water rights in the area.
4. A variance from the SD Well Construction Standards has been issued by the Chief Engineer.
5. The SD Public Water System Data (1986, Office of Drinking Water) indicates the City of Lake Norden is connected to the Kingbrook RWS, for a standby supply.



KENT BUHLER
Natural Resources Engineer

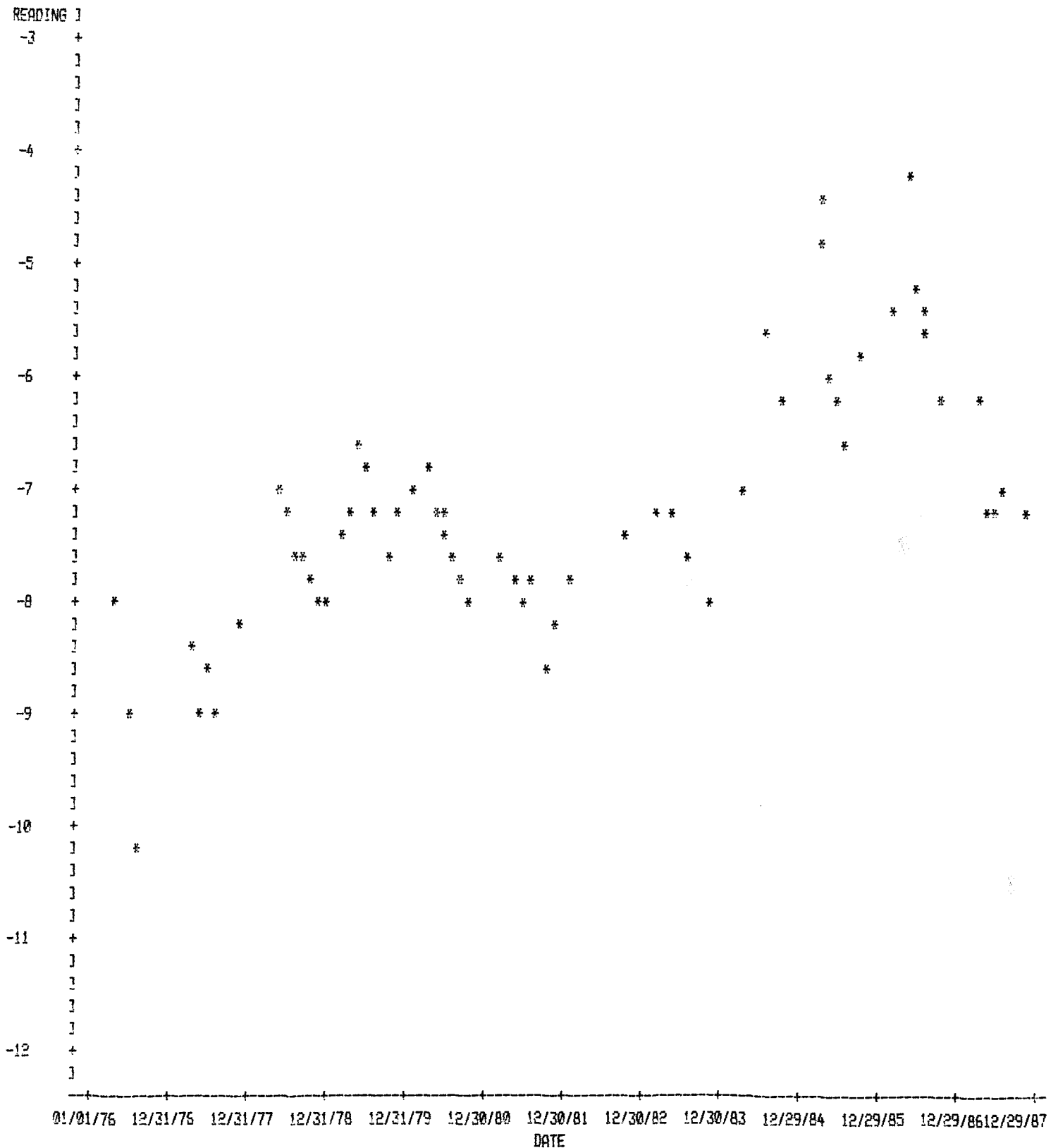
References

- Beissel, D.R., Gilbertson, J.P., 1987, Geology and Water Resources of Deuel and Hamlin Counties, South Dakota, Bulletin 27, Part 1 - Geology, DWNR-South Dakota Geological Survey.
- Hedges, L.S., S. Burch, D. Iles, R. Barari, R. Schoon, 1982, Evaluation of Groundwater Resources, Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, U.S. Army Corps of Engineers Contract DACW 45-80-C-0185, SD. DWNR, Office of Geological Survey, Vermillion SD.
- Jorgenson, D, 1966, Groundwater Supply for the City of Lake Norden, Special Report 34, South Dakota State Geological Survey, Vermillion SD.
- Kume, J., 1976, Major Aquifers in Deuel and Hamlin Counties, South Dakota, Information Pamphlet No. 11, SD Geological Survey, Vermillion SD.
- Division of Water Rights, 1987, "Observation Well, Domestic Well and Water Permit Files", DWNR-Division of Water Rights, Joe Foss Building, Pierre SD.
- Division of Water Rights, 1987, "1986 Irrigation Reports", DWNR-Division of Water Rights, Joe Foss Building, Pierre SD.
- Office of Drinking Water, 1986, SD Public Water System Data, DWNR-Office of Drinking Water, Joe Foss Building, Pierre SD.

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11:30 THURSDAY, DECEMBER 31, 1987 3

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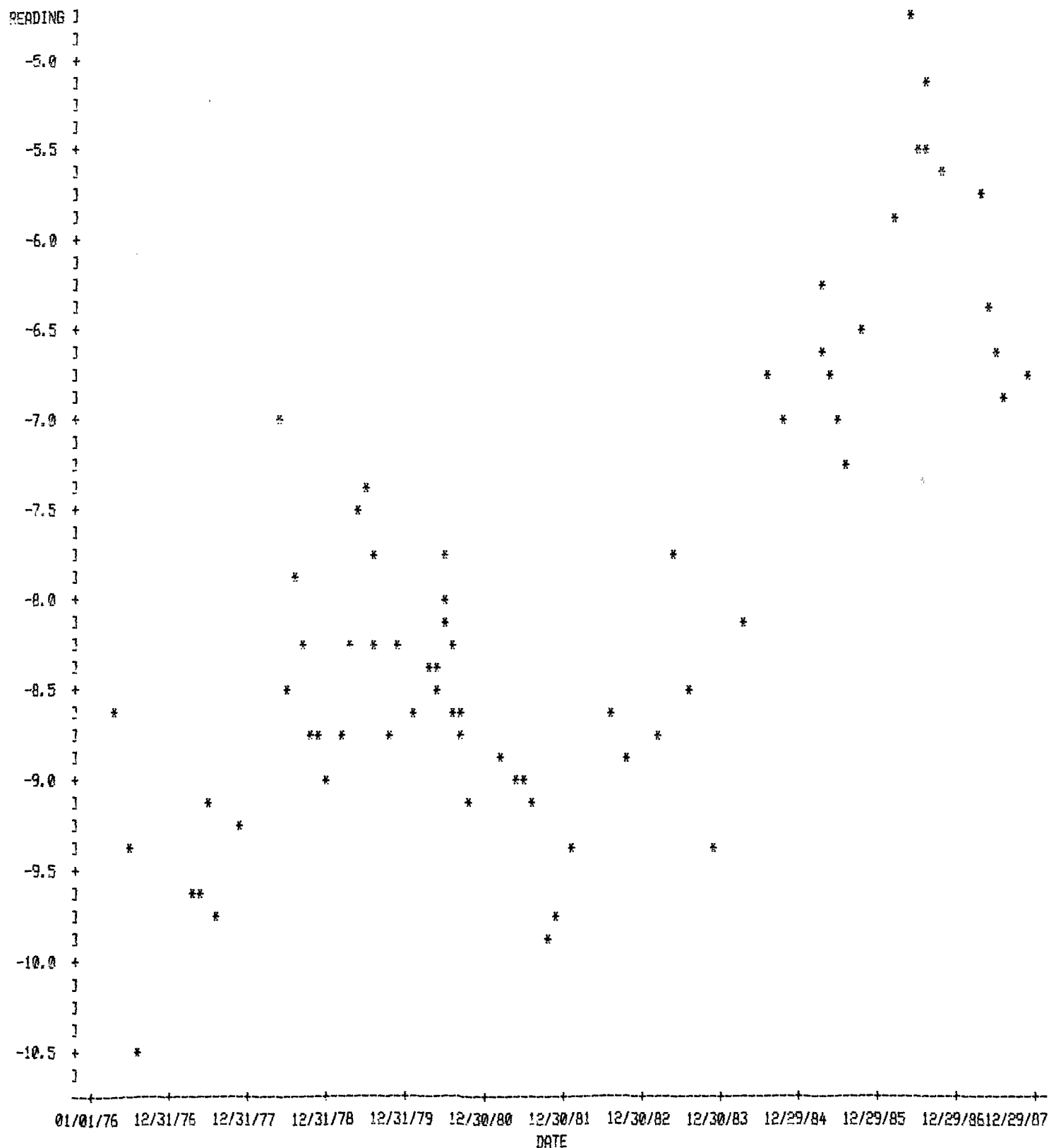
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NOTE: 1 OBS HIDDEN

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64	113N-53W-080000 2	HN-76D	10/30/86	X	-5.6
65	113N-53W-080000 2	HN-76D	04/09/87	X	-5.8
66	113N-53W-080000 2	HN-76D	05/04/87	X	-6.4
67	113N-53W-080000 2	HN-76D	07/02/87	X	-6.6
68	113N-53W-080000 2	HN-76D	08/13/87	X	-6.9
69	113N-53W-080000 2	HN-76D	11/20/87	X	-5.8

N= 69

REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5161-3, City of Lake Norden

Pursuant to SDCL 46-2A-2, the following is the revised recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 5161-3, City of Lake Norden, PO Box 213, Lake Norden SD.

The Chief Engineer is recommending APPROVAL of Application No. 5161-3 because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) in the public interest with the following qualifications:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Approval of this Permit authorizes maximum annual withdrawals of 100 acre-feet.
3. That the City of Lake Norden report to the chief engineer annually the amount of water withdrawn each year from the well authorized by Permit No. 5161-3 and the total annual water use by the City of Lake Norden.
4. Approval of this Permit authorizes well construction pursuant to Variance No. 64, 1987 from Water Management Board Well Construction Standards, Chapter 74:02:04. Well Construction shall be by a licensed well driller.

See the attached report for additional information.


JOHN HATCH, Chief Engineer
February 8, 1988



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
(605) 773-3352

January 19, 1988

NOTE:

TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT THE
NEWSPAPER RIGHT AWAY.

City of Lake Norden
PO Box 213
Lake Norden, South Dakota 57248

Dear Sir:

Your Application No. 5161-3 for a permit to appropriate water for
municipal use, has been examined and found to
comply with the South Dakota Water Laws and applicable rules. A notice of
your intent to appropriate water has been sent to the Publisher of the

Hamlin County Herald-Enterprise printed at Hayti

South Dakota. For your information, a copy of this notice, the recommendation
of the Chief Engineer and a report on the application are enclosed. Please
review this notice prior to publication and notify this office, if you have
any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPER IMMEDIATELY TO AUTHORIZE PUBLICATION
OF YOUR NOTICE OF INTENT TO APPROPRIATE WATER AND TO ARRANGE FOR PAYMENT.
Early contact with the paper can eliminate delays. The publisher has been
instructed to publish your notice once each week for two consecutive weeks
with the last publication to occur at least twenty days before the board
meeting. We must receive Proof of Publication before the application can be
considered by the Water Management Board.

Sincerely,

RON DUVAL
Natural Resources Engineer

enclosures



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

January 19, 1988

Hamlin County Herald-Enterprise
Box 207
Hayti, South Dakota 57241

Dear Sir:

Enclosed is a Notice of Hearing on Application No. 5161-3 to be published twice. Please publish the first notice on or before January 28, 1988 with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is City of Lake Norden, PO Box 213, Lake Norden, SD 57248.

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. The permit application cannot be considered by the Water Management Board until proof of publication has been received.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

FIRST TRANSMITTAL NOTICE
No. _____

TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of _____ enclosing Notice of Hearing to Appropriate Water by Application No. _____ which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
(605) 773-3352

January 25, 1988

NOTE:

TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT THE
NEWSPAPER RIGHT AWAY.

City of Lake Norden
PO Box 213
Lake Norden, South Dakota 57248

Dear Sir:

Your Application No. 5161-3 for a permit to appropriate water for
municipal use, has been examined and found to
comply with the South Dakota Water Laws and applicable rules. A notice of
your intent to appropriate water has been sent to the Publisher of the

Bryant Dakotan

printed at Bryant

~~South Dakota. For your information, a copy of this notice, the recommendation~~
~~of the Chief Engineer and a report on the application are enclosed. Please~~
review this notice prior to publication and notify this office, if you have
any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPER IMMEDIATELY TO AUTHORIZE PUBLICATION
OF YOUR NOTICE OF INTENT TO APPROPRIATE WATER AND TO ARRANGE FOR PAYMENT.
Early contact with the paper can eliminate delays. The publisher has been
instructed to publish your notice once each week for two consecutive weeks
with the last publication to occur at least twenty days before the board
meeting. We must receive Proof of Publication before the application can be
considered by the Water Management Board.

Sincerely,

RON DUVAL
Natural Resources Engineer

enclosures

SOUTH Dakota Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

January 25, 1988

Bryant Dakotan
Box 127
Bryant, South Dakota 57221

Dear Sir:

Enclosed is a Notice of Hearing on Application No. 5161-3 to be published twice.
Please publish the first notice on or before February 3, 1988 with the second publi-
cation 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the
first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT
is City of Lake Norden, Box 213, Lake Norden, SD

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return
the FIRST publication with the FIRST Transmittal form on the bottom of this page. The
first copy is needed to check the publication for errors so any corrections can be made
in the second publication. Publication errors can invalidate the public notice and cause
the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of
Publication form. DO NOT WAIT until the end of the month or the billing cycle. The
permit application cannot be considered by the Water Management Board until proof of
publication has been received.

Sincerely,



Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

FIRST TRANSMITTAL NOTICE
No. _____

TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of _____ enclosing Notice of Hearing to
Appropriate Water by Application No. _____ which was first published in our issue
of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper

No. 5161-3

Instruction to Newspaper - Publish first publication of the following Notice on or before January 28, 1988 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5161-3 to ~~Develop Reserved Water~~ Appropriate Water
~~and/or to Amend Water Permit or Water Right No.~~

Notice is hereby given that the City of Lake Norden whose mailing address is PO Box 213, Lake Norden, South Dakota has made an application for a permit to construct works and place to beneficial use 0.33 cubic feet of water per second (100 acre-feet of water annually) reserved by Future Use Permit No. 4055-3. This application authorizes construction of 1 well (Big Sioux-Brookings Aquifer) 30 feet deep to be located in the SWNE $\frac{1}{4}$ Section 17-T113N-R53W. Water is to be used for municipal purposes by the City of Lake Norden.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends

APPROVAL of Application No. 5161-3 because 1) ~~unappropriated water is available,~~
 2) ~~will be no unlawful impairment of existing rights~~ 2) ~~is beneficial use of water and~~
 3) ~~is in the public interest.~~

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, South Dakota, March 2 19 88 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by February 19, 1988. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2 46-5-30.4, 46-5-31; ~~(ground)~~ 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; ~~(future use)~~ 46-5-38 thru 46-5-40; ~~(transfer lands)~~ 46-5-30.4, 46-5-33 thru 46-5-35; ~~(10,000 AFA)~~ 46-5-20.1, 46-5-0.1, and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; ~~(future use)~~ 74:02:01:24 thru 74:02:01:25; ~~(10,000 AFA) 74:02:01:15:02 thru 74:02:01:15:05~~

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by February 19, 1988.

No. 5161-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Hamlin) ss.

Lake Norden
City

NOTICE OF HEARING
On Application No. 5161-3
to Develop Reserved Water

I, Paige Kruse, The Bryant Dakotan hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the The Bryant Dakotan

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the town

Bryant of Bryant
County of Hamlin and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

February 3, 1988

February 10, 1988

Paige Kruse
(Signature)

Editor
(Title)

2-12-88
(Date Signed)



Cost of Printing: 40.09

Notice is hereby given that the City of Lake Norden whose mailing address is PO Box 213, Lake Norden, South Dakota has made an application for a permit to construct works and place to beneficial use 0.33 cubic feet of water per second (100 acre-feet of water annually) reserved by Future Use Permit No. 4055-3. This application authorizes construction of 1 well (Big Sioux-Brookings Aquifer) 30 feet deep to be located in the SW 1/4 NE 1/4 Section 17-T113N-R53W. Water is to be used for municipal purposes by the City of Lake Norden.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5161-3 because 1) will be no unlawful impairment of existing rights. 2) is beneficial use of water and 3) is in the public interest.

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, South Dakota, March 2, 1988 at 10:00 am. The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by February 19, 1988. The petitioner may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL

46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; and 46-5-38 thru 46-5-40; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; 74:02:01:24 thru 74:02:01:25.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation on this application or to assure access to the hearing, the handicapped can contact the Water Rights Division, DWR, Joe Foss Bldg, Pierre, SD 57505 (773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by February 19, 1988.

2-3-2x



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

February 10, 1988

Larry Steffenson, Mayor
City of Lake Norden
PO Box 213
Lake Norden SD 57248

Dear Mayor Steffenson:

Enclosed is a copy of the Revised Recommendation of the Chief Engineer for Water Permit Application No. 5161-3, City of Lake Norden. Qualification No. 3 was added because of the 100 acre feet annual withdrawal limitation.

If you have any questions, please contact this office.

Very truly yours,

A handwritten signature in cursive script that reads "John Hatch".

JOHN HATCH, Chief Engineer
Water Rights Division
605 773-3352

enclosure

Conversation or File Documentation

NAME OF PERSON OR FILE: City of Lake NordenADDRESS: PO Box 213, Lake Norden SD 57248 COUNTY HamlinDATE: March 9, 1988 TELEPHONE 785-3602RE: Status of Future Use Permit No. 4055-3

COMMENTS:

Appropriation of water reserved by Future Use Permit
No. 4055-3 :

F.U. Permit No. 4055-3 $\rightarrow$ 1.32 cfs
appropriation: Permit No. 5161-3 $\rightarrow$ 0.33 cfs
water remaining in reserve $\rightarrow$ 0.99 cfs

Permit No. 5161-3 has an annual acre-feet limitation
of 100 acre-feet

Permit No. 5161-3 $\rightarrow$ 0.33 cfs $\rightarrow$ continuous pumping $\rightarrow$ 239 ac-ft
less annual limitation 100 ac-ft
remaining reserve 139 ac-ft

Therefore, Future Use Permit No. 4055-3 has in reserve:

A diversion rate of 0.99 cfs with a total annual
volume of 0.99 cfs (716 ac-ft continuous pumping) + 139 ac-ft
 $\equiv$ 855 ac-ft

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Ron Duwall



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

APR 28 1988

City of Lake Norden
P.O. Box 213
Lake Norden, South Dakota 57248

Dear Sir:

Enclosed herewith is your Water Permit No. 5161-3 as approved by the Water Management Board authorizing you to construct your water diversion system and the water to beneficial use, not exceeding the limits as specified in said Water Permit No. 5161-3.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that your Water License may be issued to you, thus completing your acquisition of a Water Right.

Very truly yours,


JOHN HATCH, Chief Engineer
Water Rights Division

JH:ms

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period-i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.

5161-3



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

December 5, 1990

CITY OF LAKE NORDEN
VIVIAN AMEN
PO BOX 213
LAKE NORDEN SD 57248

Dear MS. AMEN:

Pursuant to a qualification on Water Permit/Right No(s). 5161-3, we are requesting that the CITY OF LAKE NORDEN report to the Chief Engineer the amount of water withdrawn for the year 1990. Please respond by JANUARY 31, 1991.

If you have any questions concerning this or other water rights questions, please contact Regan Fanning, Natural Resource Analyst, (605) 773-3352.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ron Duvall". The signature is written in a cursive, flowing style.

Ron Duvall,
Natural Resource Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

785-3602
(605) 785-3602
City of Lake Norden

P.O. Box 213 Lake Norden, SD 57248

100 allowed
193,72 used

January 9, 1991

John Hatch, Chief Engineer
Water Rights Division
Joe Foss Building
Pierre, SD 57501-3181

Dear Mr. Hatch:

In regards to letter dated December 5, 1990 on qualification of Water Permit/Right No. 5161-3, the amount of water withdrawn by the City of Lake Norden for the year 1990 is 62,945,000 gallons.

Sincerely.

Vivian Amen

Vivian Amen, Finance Officer
City of Lake Norden
PO Box 213
Lake Norden, SD 57248





5161-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

January 7, 1992

City of Lake Norden
Vivian Amen
PO Box 213
Lake Norden SD 57248

Dear Ms. Amen:

Pursuant to a qualification on Water Permit/Right No(s). 5161-3, we are requesting that the City of Lake Norden report to the Chief Engineer the amount of water withdrawn for the year 1991. Please respond by February 10, 1992.

If you have any questions concerning this or other water rights questions, please contact Don Frye, Natural Resources Analyst, (605) 773-3352.

Very truly yours,

Ron Duvall,
Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

City of Lake Norden

P.O. Box 213 Lake Norden, SD 57248

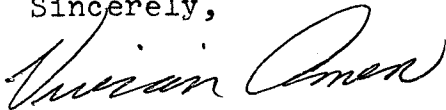
January 14, 1992

John Hatch, Chief Engineer
Water Rights Division
Joe Foss Building
Pierre, SD 57501-3181

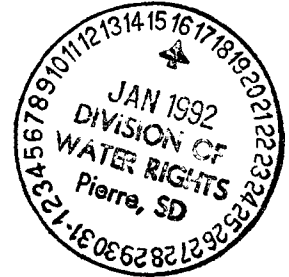
Dear Mr. Hatch:

In regards to letter dated January 7, 1992 on qualification of Water Permit/Right No. 5161-3, the amount of water withdrawn by the City of Lake Norden for the year 1991 is 60,871,000 gallons.

Sincerely,



Vivian Amen, Finance Officer
P.O. Box 213
Lake Norden, SD 57248





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

December 23, 1992

Vivian Amen
City of Lake Norden
PO Box 213
Lake Norden SD 57248

Dear Ms. Amen:

Pursuant to a qualification on Water Permit/Right No(s). 5161-3, I am requesting that the City of Lake Norden report the amount of water diverted under the permit(s) during 1992. Please respond by January 15, 1993.

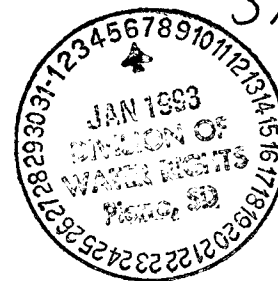
If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Very truly yours,

RON DUVALL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

City of Lake Norden

P.O. Box 213 Lake Norden, SD 57248



January 4, 1993

John Hatch, Chief Engineer
Water Rights Division
Joe Foss Building
Pierre, SD 57501-3181

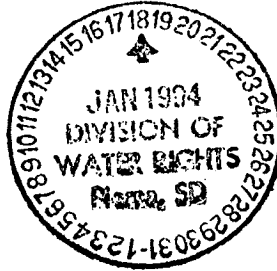
Dear Mr. Hatch:

In regards to letter dated December 23, 1992 on qualification of Water Permit/Right No. 5161-3, the amount of water withdrawn by the City of Lake Norden for the year 1992 is 41,242,000 gallons.

Sincerely,



Vivian Amen, Finance Officer
P.O. Box 213
Lake Norden, SD 57248



5161-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

605-785-3602

January 13, 1994

Vivian Amen
City of Lake Norden
PO Box 213
Lake Norden, SD 57248

Dear Ms. Amen:

Pursuant to a qualification on Water Permit/Right Nos. 5161-3 & 5499-3, I am requesting that the City of Lake Norden report the total amount of water diverted in 1993 from Permit No. 5161-3 and the total annual water use by the City of Lake Norden during 1993. Please respond by January 31, 1994.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Sincerely,

RON DUVALL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

Amount of water diverted in 1993: 41,100,000 gallons



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

March 17, 1994

Bob Brotsky
Banner & Associates
PO Box 298
Brookings, SD 57006-0298

RE: Lake Norden

Dear Mr. Brotsky:

Enclosed, as you requested, are copies of Water Right No. 557-3, Future Use Permit No. 4055-3 and Water Permit Nos. 5161-3 and 5499-3 for the City of Lake Norden.

On May 1, 1991, the Water Management Board reviewed Future Use Permit No. 4055-3. The permit now reflects that a total of 386 acre feet of water annually is remaining in reserve.

If you have any questions, please contact me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Division
(605) 773-3352

encl



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

FEB 25 1998

5815-3

City of Lake Norden
%Delores Kangas, Finance Officer
Box 213
Lake Norden, SD 57248

Dear Ms. Kangas:

Enclosed is Water License No. 5815-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 415515 in the amount of \$50.00 which you paid for the investigation and issuance of the Water License.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 5815-3, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

ks
enclosures

NOTE: The applicable portions of Water Permit Nos. 5161-3 and 5499-3 have been incorporated into Water License No. 5815-3.