

NOTICE

This scan only represents the application as filed. The information contained herein meets the requirements of K.A.R. 5-3-1 or K.A.R. 5-5-1, and has been found acceptable for filing in the office of the Chief Engineer. The application should not be considered to be a complete application as per K.A.R. 5-3-1b or K.A.R. 5-5-2a.

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Jackie McClaskey, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

File Number 49914
This item to be completed by the Division of Water Resources.

WATER RESOURCES
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**APPLICATION FOR PERMIT TO
APPROPRIATE WATER FOR BENEFICIAL USE**

Filing Fee Must Accompany the Application
(Please refer to Fee Schedule attached to this application form.)

SEP 25 2017

11:35
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To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture,
1320 Research Park Drive, Manhattan, Kansas 66502:

1. Name of Applicant (Please Print): Howard Farms
Address: 1606 280th st
City: Hiawatha KS State KS Zip Code 6644
Telephone Number: (785) 741 4516 hfarmsinc@gmail.com spring Branch Trib 2#
2. The source of water is: surface water in unallocated to Walnut in Big Nemaha Basin #2996
(stream)
OR groundwater in SF Big Nemaha
(drainage basin)

Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources.

3. The maximum quantity of water desired is 282 acre-feet OR _____ gallons per calendar year, to be diverted at a maximum rate of 2000 gallons per minute OR _____ cubic feet per second.

Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can **NOT** be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.

4. The water is intended to be appropriated for (Check use intended):
- | | | | |
|--|--|--|---|
| (a) <input type="checkbox"/> Artificial Recharge | (b) <input checked="" type="checkbox"/> Irrigation | (c) <input type="checkbox"/> Recreational | Let Jean D. know the file no. when assigned
Thx! |
| (e) <input type="checkbox"/> Industrial | (f) <input type="checkbox"/> Municipal | (g) <input type="checkbox"/> Stockwatering | |
| (i) <input type="checkbox"/> Domestic | (j) <input type="checkbox"/> Dewatering | (k) <input type="checkbox"/> Hydraulic Dredgir | |
| (m) <input type="checkbox"/> Thermal Exchange | (n) <input type="checkbox"/> Contamination Remediation | | |

YOU **MUST** COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FOR SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE _____

For Office Use Only:							
F.O. Code	GMD	Meets K.A.R. 5-3-1 (YES/NO)	Use	Source	County	By	Date
<u>RAZ</u>		<u>YES</u>	<u>IRR</u>	<u>G/S</u>	<u>BR</u>	<u>AM</u>	<u>9-25-17</u>
Fee \$	TR #	Receipt Date	Check #				
<u>300</u>		<u>9-25-17</u>	<u>4768</u>				

* ASW/DWR 9/28/17

9/28/2017 CMY

5. The location of the proposed wells, pump sites or other works for diversion of water is:

Note: For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request a 60 day period of time in which to locate the site within a specifically described, minimal legal quarter section of land.

- (A) One in the NW quarter of the NE quarter of the SE quarter of Section 32, more particularly described as being near a point 2527 feet North and 1200 feet West of the Southeast corner of said section, in Township 1 South, Range 17 East/West (circle one), Brown County, Kansas.
- (B) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.
- (C) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.
- (D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (1/4) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The owner of the point of diversion, if other than the applicant is (please print):

Same

 (name, address and telephone number)

 (name, address and telephone number)

You must provide evidence of legal access to, or control of, the point of diversion from the landowner or the landowner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document with this application. In lieu thereof, you may sign the following sworn statement:

I have legal access to, or control of, the point of diversion described in this application from the landowner or the landowner's authorized representative. I declare under penalty of perjury that the foregoing is true and correct.

Executed on Sept 22, 2017. [Signature]
 Applicant's Signature

The applicant must provide the required information or signature irrespective of whether they are the landowner. Failure to complete this portion of the application will cause it to be unacceptable for filing and the application will be returned to the applicant.

7. The proposed project for diversion of water will consist of 1 Pond & Pump

 (number of wells, pumps or dams, etc.)
 and (was)(will be) completed (by) July 1st 2018

 (Month/Day/Year - each was or will be completed)

8. The first actual application of water for the proposed beneficial use was or is estimated to be July 1st 2018
 (Mo/Day/Year)

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9. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?
 Yes No If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

10. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir. Attached 1050 Ac Drainage

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources? Yes No Class A Hazard Exemption

- If yes, show the Water Structures permit number here _____
- If no, explain here why a Water Structures permit is not required _____

11. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

- ✓ (a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.
- (b) If the application is for groundwater, please show the location of any existing water wells of any kind within 1/2 mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within 1/2 mile, please advise us.
- (c) If the application is for surface water, the names and addresses of the landowner(s) 1/2 mile downstream and 1/2 mile upstream from your property lines must be shown.
- ✓ (d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.
- ✓ (e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

12. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

None

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13 *NA*

Furnish the following well information if the proposed appropriation is for the use of groundwater. If the well has not been completed, give information obtained from test holes, if available.

Information below is from: Test holes Well as completed Drillers log attached

Well location as shown in paragraph No.	(A)	(B)	(C)	(D)
Date Drilled	_____	_____	_____	_____
Total depth of well	_____	_____	_____	_____
Depth to water bearing formation	_____	_____	_____	_____
Depth to static water level	_____	_____	_____	_____
Depth to bottom of pump intake pipe	_____	_____	_____	_____

14. The relationship of the applicant to the proposed place where the water will be used is that of

owner / agent
(owner, tenant, agent or otherwise)

15. The owner(s) of the property where the water is used, if other than the applicant, is (please print):

Wilson Family Trust ETal 1108 Wentley Drive Hiawatha KS 66434
(name, address and telephone number) 785-741-4889

(name, address and telephone number)

16. The undersigned states that the information set forth above is true to the best of his/her knowledge and that this application is submitted in good faith.

Dated at Hiawatha, Kansas, this 22 day of Sept, 2017.
(month) (year)


(Applicant Signature)

By _____
(Agent or Officer Signature)

(Agent or Officer - Please Print)

Assisted by Keith Grimm MWI, LLC Date: _____
(office/title)

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FEE SCHEDULE

1. The fee for an application for a permit to appropriate water for beneficial use, except for domestic use, shall be (see paragraph No. 2 below if requesting storage):

ACRE-FEET	FEE
0-100	\$200.00
101-320	\$300.00
More than 320	\$300.00 plus \$20.00 for each additional 100 acre-feet or any part thereof.

2. The fee for an application in which storage is requested, except for domestic use, shall be:

ACRE-FEET	FEE
0-250	\$200.00
More than 250	\$200.00 plus \$20.00 for each additional 250 acre-feet of storage or any part thereof.

Note: If an application requests both direct use *and* storage, the fee charged shall be as determined under No. 1 or No. 2 above, whichever is greater, but not both fees.

3. The fee for an application for a permit to appropriate water for water power or dewatering purposes shall be \$100.00 plus \$200.00 for each 100 cubic feet per second, or part thereof, of the diversion rate requested.

Note: The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works for diversion has been completed, except that for applications filed on or after July 1, 2009, for works constructed for sediment control use and for evaporation from a groundwater pit for industrial use shall be accompanied by a field inspection fee of \$200.00.

MAKE CHECKS PAYABLE TO THE KANSAS DEPARTMENT OF AGRICULTURE

ATTENTION

A Water Conservation Plan may be required per K.S.A. 82a-733. A statement that your application for permit to appropriate water may be subject to the minimum desirable streamflow requirements per K.S.A. 82a-703a, b, and c may also be required from you. After the Division of Water Resources has had the opportunity to review your application, you will be notified whether or not you will need to submit a Water Conservation Plan. You also may be required to install a water flow meter or water stage measuring device on your diversion works prior to diverting water. There may be other special conditions or Groundwater Management District regulations that you will need to comply with if this application is approved.

CONVERSION FACTORS

1 acre-foot equals 325,851 gallons
1 million gallons equal 3.07 acre-feet

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IRRIGATION USE SUPPLEMENTAL SHEET

File No. 49914

Name of Applicant (Please Print): Howard Farms

1: Please supply the name and address of each landowner, the legal description of the lands to be irrigated, and designate the actual number of acres to be irrigated in each forty acre tract or fractional portion thereof:

Landowner of Record NAME: Howard Farms
 ADDRESS: 1606 280th st Hiawatha KS 66434

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
32	1 ^s	17 ^E										40	40	4.7	34	40	40	40	18	256.7

Landowner of Record NAME: Wilson Family trust Etal
 ADDRESS: 1108 Wentley Dr Hiawatha KS 66434

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
32	1	17			10				8	8										26

Total
282.7

Landowner of Record NAME: _____
 ADDRESS: _____

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		

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49914

REGISTRATION FORM FOR EXEMPT CLASS A DAMS

K.S.A. 82a-301

"Dam" means any artificial barrier including appurtenant works with the ability to impound water, waste water or other liquids that has a height of 25 feet or more; or has a height of six feet or greater and a storage volume at the top of the emergency spillway elevation of 50 or more acre-feet. The prior written consent or permit of the chief engineer shall not be required for construction or modification of a hazard class A dam that:

1. has a height of less than 30 feet and a storage volume at the top of the emergency spillway elevation of less than 125 acre feet, **and the dam location and dimensions have been registered with the division of water resources in a written form prescribed by the chief engineer; or**
2. is a wastewater storage structure for a confined feeding facility that has been approved by the secretary of health and environment pursuant to K.S.A. 65-171d, and amendments thereto.

Complete the following information to satisfy the registration for exempt low, hazard class A dams defined in K.S.A. 82a-301(d)(1).

Dam owner information

Name: Howard Farms
 Mailing Address: 1606 280th St
 Phone: 785-741-4516
 E-mail Address: hfarmsinc@gmail.com

Legal description of location: The location of the proposed dam is (use intersection of project centerline and stream centerline): NW quarter of the NE quarter of the SE quarter of Section 32, more particularly described as being near a point 2527 feet North and 1200 feet West of the Southeast corner of said section, in Township 1 South, Range 17 (East/West) Brown County, Kansas, across, along, or in (stream or watercourse name): unmarked tributary to Walnut Creek Big Nemaha River

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Drainage area (acres): 1050
 Use intersection of dam centerline and stream centerline as drainage area point.

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Dam height (feet): 29.9ft
 The height of a dam or barrier shall be measured from the lowest elevation of the streambed, downstream toe or outside limit of the dam to the elevation of the top of the dam.

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Area capacity table: Please attach a reservoir area capacity table for the dam. The table identifies the number of acres enclosed by each contour within the reservoir area and the total storage capacity of the reservoir in acre-feet at the elevation of each contour. The data shall be compiled for all contours in the reservoir up to the elevation of the top of the dam. Computations of capacity shall be based on the natural topography of the reservoir basin but may include the volume of any excavation in the reservoir made during construction of the dam. **The storage in acre-feet must be shown in the table for the proposed emergency spillway elevation. This will be used to identify the jurisdiction of the dam.** Attached

Location map: Submit a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the location and layout of the proposed dam, the location of the stream, and the property lines. The distance from the North-South distance and the East-West distance from a section line or southeast corner of section should be marked on the map along with a north arrow and map scale. Attached

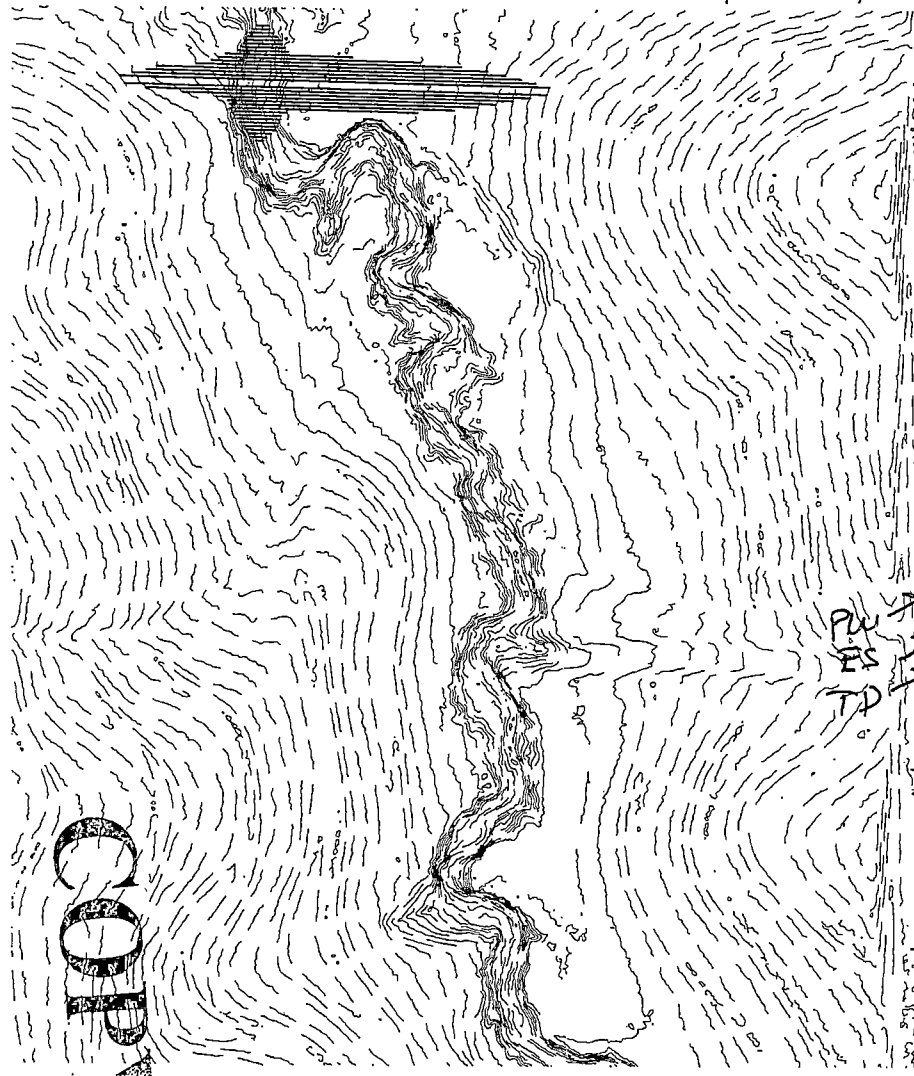
Hazard class determination: List any homes, businesses, highways, improved roads, railroads, camp grounds, recreational facilities, or public utilities located downstream from the dam that could be inundated if the dam fails. None

COPY

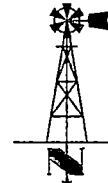
49914

TOPOGRAPHIC SURVEY

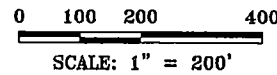
Compute Proposed Stream Obstruction Volume in the Southeast One-Quarter of Section 32,
Township 1 South, Range 17 East of the
Sixth Principal Meridian, Brown County, Kansas



Contour	Area	1' Volume	Total Volume	Ac. Ft.	Embankment	Height
983	-	-	-	-	-	-
984	2,178.12	1,089.06	1,089.060	0.0250		1.65
985	7,883.72	5,030.92	6,119.980	0.1405		2.65
986	12,003.73	9,943.73	16,063.705	0.3688		3.65
987	16,270.24	14,136.99	30,200.690	0.6933		4.65
988	21,867.11	19,068.68	49,269.365	1.1311		5.65
989	29,608.81	25,737.96	75,007.325	1.7219		6.65
990	37,125.27	33,367.04	108,374.365	2.4879		7.65
991	45,655.54	41,390.41	149,764.770	3.4381		8.65
992	56,323.22	50,989.38	200,754.150	4.6087		9.65
993	68,129.88	62,226.55	262,980.700	6.0372		10.65
994	78,934.67	73,532.28	336,512.975	7.7253		11.65
995	89,410.47	84,172.57	420,685.545	9.6576		12.65
996	103,480.22	96,445.35	517,130.890	11.8717		13.65
997	115,235.58	109,357.90	626,488.790	14.3822		14.65
998	128,545.18	121,890.38	748,379.170	17.1804		15.65
999	140,313.07	134,429.13	882,808.295	20.2665		16.65
1000	154,042.39	147,177.73	1,029,986.025	23.6452		17.65
1001	173,140.35	163,591.37	1,193,577.395	27.4008		18.65
1002	197,514.19	185,327.27	1,378,904.665	31.6553		19.65
1003	231,425.83	214,470.01	1,593,374.675	36.5788		20.65
1004	261,250.25	246,338.04	1,839,712.715	42.2340		21.65
1005	295,884.46	278,567.36	2,118,280.070	48.6290		22.65
1006	331,810.04	313,847.25	2,432,127.320	55.8340		23.65
1007	375,674.19	353,742.12	2,785,869.435	63.9548		24.65
1008	423,248.38	399,461.29	3,185,330.720	73.1251	7,241	25.65
1009	479,570.59	451,409.49	3,636,740.205	83.4881	PW	26.65
1010	549,314.30	514,442.45	4,151,182.650	95.2980		27.65
1011	630,340.20	589,827.25	4,741,009.900	108.8386	FS	28.65
1012	707,945.13	669,142.67	5,410,152.565	124.2000	12,774	29.65
1013	789,306.55	748,625.84	6,158,778.405	141.3861		30.65
1014	872,949.19	831,127.87	6,989,906.275	160.4662	16,465	31.65



General Notes for Site:
No field verification of LIDAR done.
Front toe of stream obstruction elevation: 983.04'
Rear toe of stream obstruction elevation: 982.35'
Assumed top of structure width: 12'
Assumed front and back slope: 3:1



LAND SURVEYOR'S CERTIFICATE
THIS IS TO CERTIFY THAT THIS SURVEY
WAS DONE BY THE UNDERSIGNED, AND
THAT THE SURVEY WAS DONE ON THE
GROUND ON _____



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THIS DRAWING ORIGINALLY CREATED AT SPECIFIED SCALE. IF LINE BELOW DOES NOT MEASURE 1 INCH, DRAWING HAS BEEN REDUCED.

ORIGINAL DRAWING
SIZE: 1 INCH

JORGENSEN
SURVEYING

73051 617 Ave
Tecumseh, NE 68450
(402) 335-2033
jorgensensurveying@gmail.com

Stream Obstruction

SE 1/4 Sec 32, T1S, R17E
Brown County, Kansas

PREPARED FOR
MWT - Howard

SCALE	1"=200'
FIELD ON:	-
CHK. BY	MARCY
DWN. BY	BRENT
DATE:	09/20/17
SHEET	1 OF 2
JOB NO.	5262.76



1320 Research Park Drive
Manhattan, Kansas 66502

Jackie McClaskey, Secretary

Phone: (785) 564-6700
Fax: (785) 564-6777
Email: ksag@kda.ks.gov
www.agriculture.ks.gov
Sam Brownback, Governor

September 27, 2017

HOWARD FARMS
1606 280TH ST
HIAWATHA KS 66934

FILE COPY

RE: Application
File No. 49914

Dear Sir or Madam:

Your application for permit to appropriate water in 32-1S-17E in Brown County, was received and has been assigned the file number noted above.

As a matter of record, the Division of Water Resources has on hand a large number of applications awaiting processing. Therefore to be fair to all concerned, and so that we can process those applications on hand in the order they were received, we intend to concentrate on the backlog of applications until the issue is resolved. Once review of your application has begun, we will contact you, if additional information is required.

In accordance with the provisions of the Kansas Water Appropriation Act, a portion of which is included below, the use of water as proposed prior to approval of the application is unlawful. Once approved, compliance with the terms, conditions and limitations of the permit is necessary. Conservation of the water resources of Kansas is required.

Section 82a-728 of the Kansas Water Appropriation Act, provides (a) except for the appropriation of water for the purpose of domestic use, . . . it shall be unlawful for any person to appropriate or threaten to appropriate water from any source without first applying for and obtaining a permit to appropriate water in accordance with the provisions of the Water Appropriation Act or for any person to violate any condition of a vested right, appropriation right or an approved application for a permit to appropriate water for beneficial use.

(b) (1) The violation of any provision of this section by any person is a class C misdemeanor . . .

A class C misdemeanor is punishable by a fine not to exceed \$500 and/or a term of confinement not to exceed one month in the county jail. Each day that the violation occurs constitutes a separate offense.

If you have any questions, please contact me at (785) 564-6645. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

Kristen A. Baum
New Applications Unit Supervisor
Water Appropriation Program

BAT: dlw
pc: TOPEKA Field Office
GMD

WILSON FAMILY TRUST ETAL 1108 WENTLEY DR HIAWATHA, KS 66434

5.7 acres on wilson

4 acres wilson

1054 high elv

Dam

1200ft west

Dam and pump 1000ft 1055gpm @180TDH

58 acres Total 1040 elv

2527ft north

2290ft E to W pivot

1490ft E pivot to dam

153 acres Total Irr 1050 elv

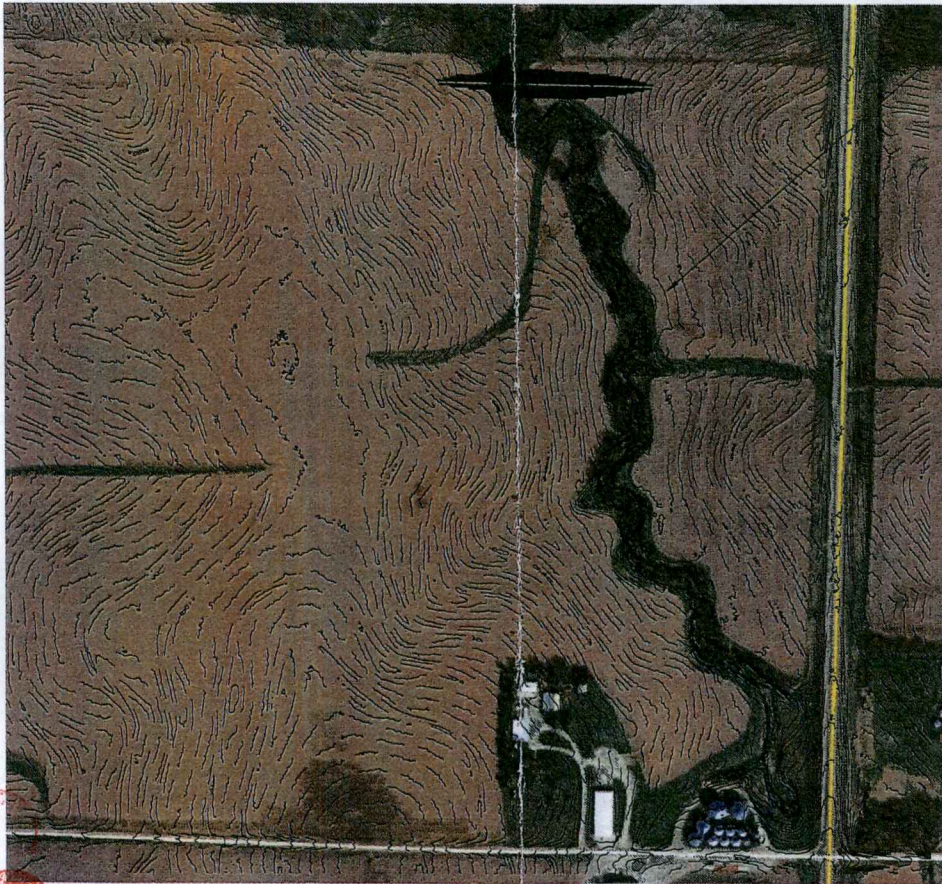
BRYN PLEASANT FARMS, INC. EUGENE SWEARINGEN 1886 270TH ST HIAWATHA, KS 66434

APP 252
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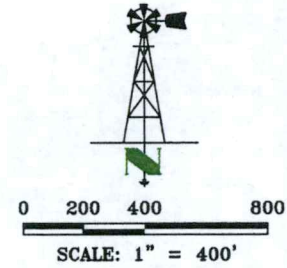
41667

49914

TOPOGRAPHIC SURVEY
 Compute Proposed Stream Obstruction Volume in the Southeast One-Quarter of Section 32,
 Township 1 South, Range 17 East of the
 Sixth Principal Meridian, Brown County, Kansas



Water Level at Elev: 1008'



THIS DRAWING ORIGINALLY CREATED AT
 SPECIFIED SCALE. IF LINE BELOW DOES NOT
 MEASURE 1 INCH, DRAWING HAS BEEN
 REDUCED.
 ORIGINAL DRAWING
 SIZE: 1 INCH

**JORGENSEN
 SURVEYING**
 73051 617 Ave
 Tecumseh, NE 68450
 (402) 335-2033
 jorgensensurveying@gmail.com

Stream Obstruction

SE 1/4 Sec 32, T1S, R17E
 Brown County, Kansas

PREPARED FOR
 MWI - Howard

SCALE	1"=400'
FIELD ON:	-
CHK. BY	MARCY
DWN. BY	BRENT
DATE:	09/20/17

SHEET 2 OF 2

JOB NO.
 5262.76

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WILSON FAMILY TRUST ETAL 1108 WENTLEY DR HIAWATHA, KS 66434

5.7 acres on wilson

4 acres wilson

1054 high elv

Dam

1200ft west

Dam and pump 1000ft 1055gpm @180TDH

58 acres Total 1040elv

2527ft north

2290ft E to W pivot

1490ft E pivot to dam

153 acres Total Irr 1050 elv

BRYN PLEASANT FARMS, INC. EUGENE SWEARINGEN 1886 270TH ST HIAWATHA, KS 66434

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WILSON FAMILY TRUST ETAL 1108 WENTLEY DR HIAWATHA, KS 66434

5.7 acres on wilson

4 acres wilson

1054 high elv

Dam

1200ft west

Dam and pump 1000ft 1055gpm @180TDH

58 acres Total 1040elv

2527ft north

2290ft E to W pivot

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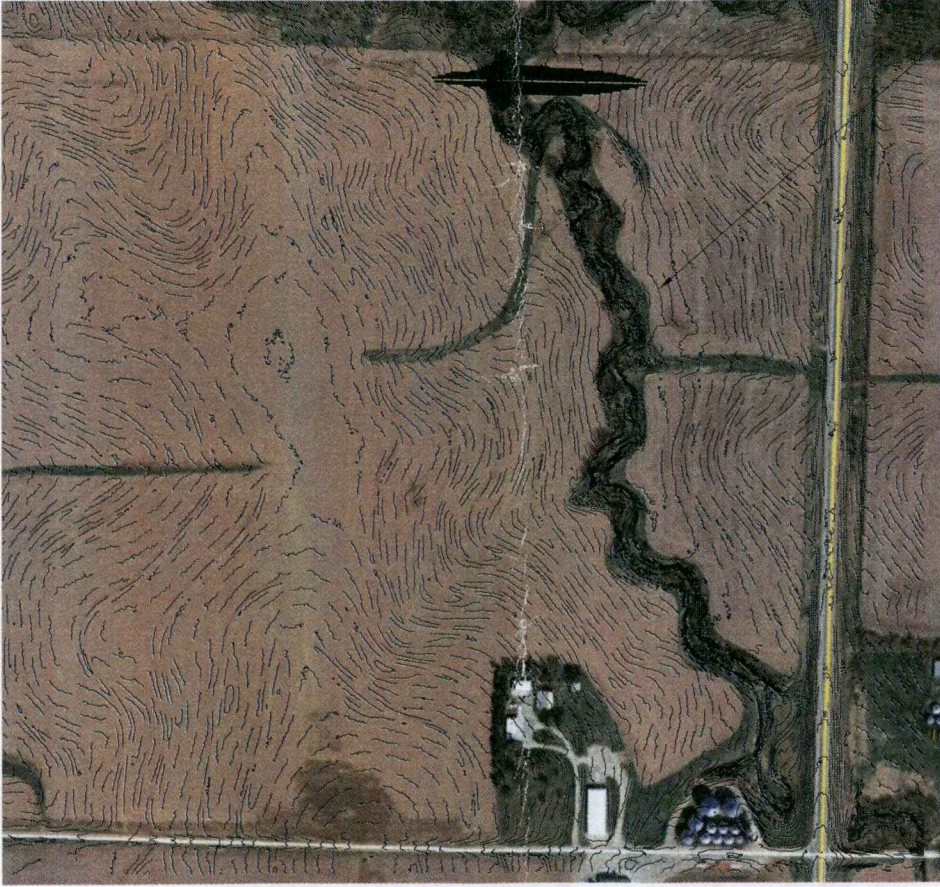
153 acres Total Irr 1050 elv

BRYN PLEASANT FARMS, INC. EUGENE SWEARINGEN 1886 270TH ST HIAWATHA, KS 66434

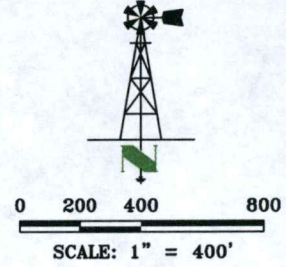
h166h

49914

TOPOGRAPHIC SURVEY
 Compute Proposed Stream Obstruction Volume in the Southeast One-Quarter of Section 32,
 Township 1 South, Range 17 East of the
 Sixth Principal Meridian, Brown County, Kansas



Water Level at Elev: 1008'



KS DEPT OF AGRICULTURE

SEP 25 2017

WATER RESOURCES
RECEIVED

THIS DRAWING ORIGINALLY CREATED AT
SPECIFIED SCALE. IF LINE BELOW DOES NOT
MEASURE 1 INCH, DRAWING HAS BEEN
REDUCED.

ORIGINAL DRAWING
SIZE: 1 INCH



JORGENSEN SURVEYING
 73051 617 Ave
 Tecumseh, NE 68450
 (402) 335-2033
 jorgensensurveying@gmail.com

Stream Obstruction

SE 1/4 Sec 32, T1S, R17E
 Brown County, Kansas

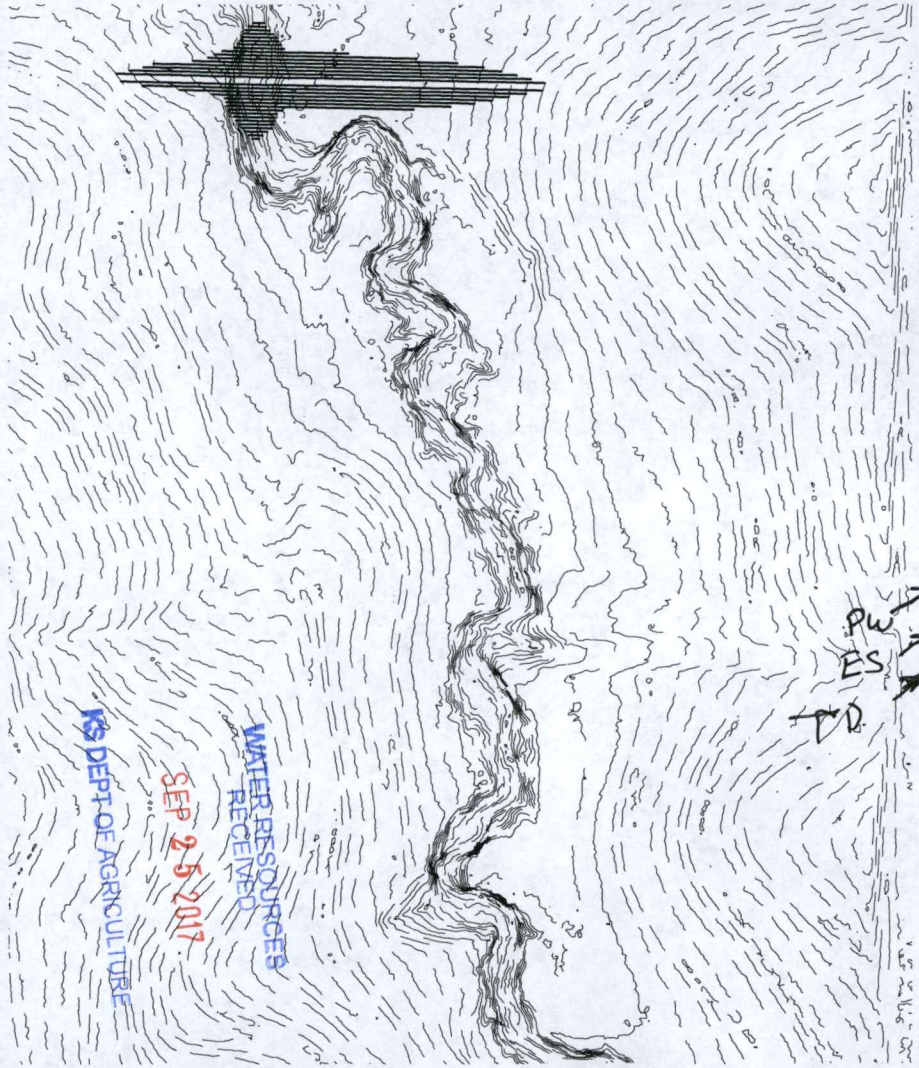
PREPARED FOR
MWI - Howard

SCALE	1"=400'
FIELD ON:	-
CHK. BY	MARCY
DWN. BY	BRENT
DATE:	09/20/17
SHEET	2 OF 2
JOB NO.	5262.76

49914

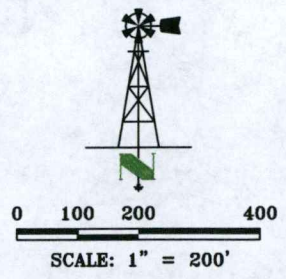
TOPOGRAPHIC SURVEY

Compute Proposed Stream Obstruction Volume in the Southeast One-Quarter of Section 32,
Township 1 South, Range 17 East of the
Sixth Principal Meridian, Brown County, Kansas



Contour	Area	1' Volume	Total Volume	Ac. Ft.	Embankment	Height
983	-					
984	2,178.12	1,089.06	1,089.060	0.0250		1.65
985	7,883.72	5,030.92	6,119.980	0.1405		2.65
986	12,003.73	9,943.73	16,063.705	0.3688		3.65
987	16,270.24	14,136.99	30,200.690	0.6933		4.65
988	21,867.11	19,068.68	49,269.365	1.1311		5.65
989	29,608.81	25,737.96	75,007.325	1.7219		6.65
990	37,125.27	33,367.04	108,374.365	2.4879		7.65
991	45,655.54	41,390.41	149,764.770	3.4381		8.65
992	56,323.22	50,989.38	200,754.150	4.6087		9.65
993	68,129.88	62,226.55	262,980.700	6.0372		10.65
994	78,934.67	73,532.28	336,512.975	7.7253		11.65
995	89,410.47	84,172.57	420,685.545	9.6576		12.65
996	103,480.22	96,445.35	517,130.890	11.8717		13.65
997	115,235.58	109,357.90	626,488.790	14.3822		14.65
998	128,545.18	121,890.38	748,379.170	17.1804		15.65
999	140,313.07	134,429.13	882,808.295	20.2665		16.65
1000	154,042.39	147,177.73	1,029,986.025	23.6452		17.65
1001	173,140.35	163,591.37	1,193,577.395	27.4008		18.65
1002	197,514.19	185,327.27	1,378,904.665	31.6553		19.65
1003	231,425.83	214,470.01	1,593,374.675	36.5788		20.65
1004	261,250.25	246,338.04	1,839,712.715	42.2340		21.65
1005	295,884.46	278,567.36	2,118,280.070	48.6290		22.65
1006	331,810.04	313,847.25	2,432,127.320	55.8340		23.65
1007	375,674.19	353,742.12	2,785,869.435	63.9548		24.65
1008	423,248.38	399,461.29	3,185,330.720	73.1251	7,241	25.65
1009	479,570.59	451,409.49	3,636,740.205	83.4881		26.65
1010	549,314.30	514,442.45	4,151,182.650	95.2980		27.65
1011	630,340.20	589,827.25	4,741,009.900	108.8386		28.65
1012	707,945.13	669,142.67	5,410,152.565	124.2000	12,774	29.65
1013	789,306.55	748,625.84	6,158,778.405	141.3861		30.65
1014	872,949.19	831,127.87	6,989,906.275	160.4662	16,465	31.65

General Notes for Site:
 No field verification of LIDAR done.
 Front toe of stream obstruction elevation: 983.04'
 Rear toe of stream obstruction elevation: 982.35'
 Assumed top of structure width: 12'
 Assumed front and back slope: 3:1



LAND SURVEYOR'S CERTIFICATE
 THIS IS TO CERTIFY THAT THIS SURVEY
 WAS DONE BY THE UNDERSIGNED, AND
 THAT THE SURVEY WAS DONE ON THE
 GROUND ON _____.



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Stream Obstruction
 SE 1/4 Sec 32, T1S, R17E
 Brown County, Kansas
 PREPARED FOR
 MWI - Howard

SCALE	1"=200'
FIELD ON:	-
CHK. BY	MARCY
DWN. BY	BRENT
DATE:	09/20/17
SHEET	1 OF 2
JOB NO.	5262.76