## Kansas Department of Agriculture Division of Water Resources PERMIT OF NEW APPLICATION WORKSHEET

1. File Number:		2. Status (	Change Date:	3. Field Office:	4. GMD:					
50,928		6/13/2	2024	03						
5. Status: Approved	☐ Denied by D	WR/GMD	☐ Dismiss by Request/Failure to Return							
6. Enclosures: ⊠ Check Valve	⊠ N of C Form	⊠ Wa	ater Tube	☐ Driller Copy	⊠ Meter					
7a. Applicant(s)  New to system □	Person ID 687 Add Seq#	789	7c. Landowne New to sy		Person ID Add Seq#					
JOSH NELSON 3036 AVE U MARQUETTE KS 67464		0624	7d Mico		Doroon ID					
7b. Landowner(s)  New to system ⊠	Person ID	9621	7d. Misc. New to sy	stem 🗌	Person ID Add Seq#					
TERRY A HEDLUND RE 1950 5 <sup>TH</sup> AVE MCPHERSON KS 6746										
8. WUR Correspondent New to system ⊠	Person ID Add Seq#		9. Use of Wat	5 5		⊠ No				
Overlap File (s) WUC Agree  ☐ Yes  ☐ No	Notarized WUC	Form 🔲	   ⊠ IRR	☑ Groundwater ☐ REC	☐ Surface Wa	mater ☐ MUN				
TERRY A HEDLUND RE	V TRUST		STK	□ REC		☐ MON				
1950 5 <sup>TH</sup> AVE			☐ HYD DRG	☐ WTR PWR		<del>_</del>				
MCPHERSON KS 6746	0			□	<del>_</del>					
10. Completion Date:	5 11. Perfe	ection Date:	12/31/202	<b>9</b> 12. Ex	p Date:					
13. Conservation Plan Required? ☐ `	∕es ⊠ No Date Requ	uired:	Date Ap	pproved:	_ Date to Compl	y:				
14. Water Level Measuring Device? [	☐ Yes   No Date	to Comply:	:	Date WLMD	Installed:					
			Date Review	ed: 6/11/24 ved: 6/13/2024 d: 6/17/2024 KAnderson	•					

File No.	50,9	28			15. Fo	ormatio	n Cod	e: <b>113</b>	}		Drair	nage B	asin:	17			(	County	: <b>MP</b>		Sp	ecial U	lse: <b>N/A</b>		Strear	n: <b>N/A</b>		
16. Poin T MOD DEL	its of Div		n														17. R	ate an Aı	d Qua	•				Additional				
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ENT S				NW	22	17S	5W	1	4	4,337	4,	042																
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ENT S				NW	22	17S	5W	•	4	4,637	3	742																
	BATT ID 2404																											
18. Stora	8. Storage: RateNF Quantityac/ft Additional RateNF Additional Quantityac/ft																											
19. Limita	ation: _					af/yr at					gpm (				cfs) w	hen co	ombine	ed with	n file n	umber	(s)							
Limit	ation: _					af/yr at					gpm (				cfs) w	hen co	ombine	ed with	n file n	umber	(s)							
20. Mete	r Requir	ed?	⊠ Yes		No		То	oe ins	talled l	by		12	2/31	/202	5		_ D	ate Ac	cepta	ble Me	eter Inst	alled _						
21. Plac	e of Use	)						NI	≣1⁄4			NV	<b>V</b> ½			sv	<b>V</b> ½			S	6E1/4		Total	Owner	Ch	g?	Overlap Files	s
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Commen	comments: PU modified from original application in order to be approved. Ownership changed since the application was filed.																											

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## KANSAS DEPARTMENT OF AGRICULTURE Division of Water Resources

#### <u>M E M O R A N D U M</u>

**TO:** Files **DATE:** June 11, 2024

**FROM:** David Means **RE:** Application, File No. 50,928

Josh Nelson has filed the above referenced application to appropriate 161.2 acre-feet of groundwater at 1,000 gpm for irrigation use in the Smoky Hill River basin from a battery of four (4) wells with a geographic center located in McPherson County, Kansas.

Initial review of the application found that it did not meet safe yield. On April 2, 2024, a letter was mailed to Mr. Nelson, outlining his options which included signing a voluntary dismissal of the application or demonstrating that there is more water available for appropriation than what our review determined. The applicant responded by phone on April 15, 2024. After further discussion, it was discovered that an error was made on the safe yield calculation. The quantity for this pending application was not subtracted from the total amount of existing permits within the area of consideration.

The proposed point of diversion is in an area that is open to new applications and appears to be sourcing the alluvial aquifer associated with the Smoky Hill River. The area of consideration for the safe yield analysis within the 2 mile circle was reduced to 4,908 acres to include only the area underlain by the Smoky Hill river alluvium. Based on this extent and an estimated annual recharge of 2.2 inches with 75% of the recharge available for appropriation, the safe yield is 674.8 acre-feet. Total prior appropriations within the area of consideration total 523.03 acre-feet, leaving 151.77 acre-feet available for appropriation.

Mr. Nelson was notified that the application could only be approved for the available safe yield quantity of 151.77 acre-feet. The application initially proposed the irrigation of 125 acres in McPherson County, Kansas, but the applicant agreed to reduce the proposed place of use to 94 acres. It is not overlapped by any existing water rights or applications. The proposed quantity was reduced to 122.2 AF to reflect the maximum allowable of 1.3 AF/AC in McPherson County, so that it complies with K.A.R. 5-3-20.

K.A.R. 5-4-4 requires a minimum spacing of 1,320 feet from non-domestic wells and 660 feet to domestic wells. Review of the aerial photography and the WWC-5 database indicates that the closest permitted non-domestic well is approximately 4,260 feet away authorized by Water Right, File No. 45,110. There does not appear to be any domestic wells within 660 feet of the proposed point of diversion, so the well spacing requirements appear to have been met. Nearby notification letters were sent on May 16, 2024. As of this date no responses have been received.

Since the application proposes a battery of 4 wells, the proposed rate must be reduced to 800 gpm instead of the 1,000 gpm requested on the application.

In an email message dated June 13, 2024, Kelly Stewart, Water Commissioner of the Stockton Field Office recommended approval of the application.

Based on the above discussion and the available information, it is recommended that the referenced application be approved.

David Means

Environmental Comp/Reg Spec II
Division of Water Resources

Dail L. Mean



#### KANSAS DEPARTMENT OF AGRICULTURE

Mike Beam, Secretary of Agriculture

#### DIVISION OF WATER RESOURCES

Earl D. Lewis Jr., Chief Engineer

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# DEC 2 0 2022 12.07 KS DEPT OF AGRICULTURE

## 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.)

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture,

1320 Research Park Drive, Manhattan, Kansas 66502: Name of Applicant (Please Print): Josh Nelson Address: 3036 Ave U State KS Zip Code 67464 City: Marquette Telephone Number: (785) 820-0474 2. The source of water is: ☐ surface water in OR □ groundwater in Smokey Hill River (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.

5/16/2024 and return to the Division of Water Resources. DLM acre-feet OR \_\_\_\_ gallons per calendar year, The maximum quantity of water desired is 161.2 to be diverted at a maximum rate of 1,000 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. The water is intended to be appropriated for (Check use intended): (a) ☐ Artificial Recharge (b) ⊠ Irrigation (c) ☐ Recreational (d) Water Power (e) ☐ Industrial (f) ☐ Municipal (g) ☐ Stockwatering (h) ☐ Sediment Control (j) ☐ Dewatering (k) ☐ Hydraulic Dredging (I) Fire Protection (i) Domestic (m) ☐ Thermal Exchange (n) ☐ Contamination Remediation YOU MUST COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

Source G/S County

Receipt Date 17

Meets K.A.R. 5-3-1 (YES / NO) Use IRR

\_ Fee \$<u>\_**3**</u> TR # \_

For Office Use Only:

F.O.

Code

By ALB<sub>Date</sub> 12/20/2

Check # 4 3600

#### \*60 DAYS TO LOCATE

5.	The	location of the proposed wells, pump sites or other works for diversion of water is:										
60 DTL 3960'		e: For the application to be accepted, the point of diversion location must be described acre tract, unless you specifically request a 60 day period of time in which to locate the specifically described, minimal legal quarter section of land.	ne site within a									
3960	(A)	One in the NE quarter of the NW quarter of Section 22,	more particularly									
	7	described as being near a point $\frac{4637}{1}$ feet North and $\frac{4042}{1}$ feet West of the Southe	ast corner of said									
3/7/2023 BMM		section, in Township <u>17</u> South, Range <u>5</u> West, <u>McPherson</u>	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 Southe	ast corner of said									
		section, in Township South, Range ,	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 Southe	ast corner of said									
		south, Range ,	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 Southe	ast corner of said									
		section, in Township South, Range ,	County, Kansas.									
	in th well. A ba than	wells, except that a single application may include up to four wells within a circle with a quarter (¼) 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										
	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):											
		(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 landowner or the landowner's authorized representative. I declare under penalty of the foregoing is true and correct.  Executed on 12/14/22, 2022.  Applicant's Signature										
	land	applicant must provide the required information or signature irrespective of whet lowner. Failure to complete this portion of the application will cause it to be unacceptable lication will be returned to the applicant.	her they are the e for filing and the									
7.	The	proposed project for diversion of water will consist of	ims etc.)									
	and	will be completed As soon as approved  (Month/Day/Year - each was or will be completed)										
	8. appi	(Month/Day/Year - each was or will be completed) The first actual application of water for the proposed beneficial use was or is estimated roved	to be As soon as									

(Mo/Day/Year)

## IRRIGATION USE SUPPLEMENTAL SHEET

							Fi	le No											
			Nar	ne of	Appli	icant (	(Pleas	e Prir	nt): <u>Jo</u>	osh N	elson							_	
1.	Please design	supp ate th	ly the	e nam ual nu	ne and mber	l addr	ress o	f eacl be in	n land	lowne d in e	er, the	lega orty ac	l desc ere tra	riptio ct or	n of t	the la	nds to	o be in	rrigated, and eof:
Land	lowne	er of l	Recor				verly				DO D	av. 12	27 5	lina	VS 6	7401			
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DWR 1-100.23 (7/7/2000)

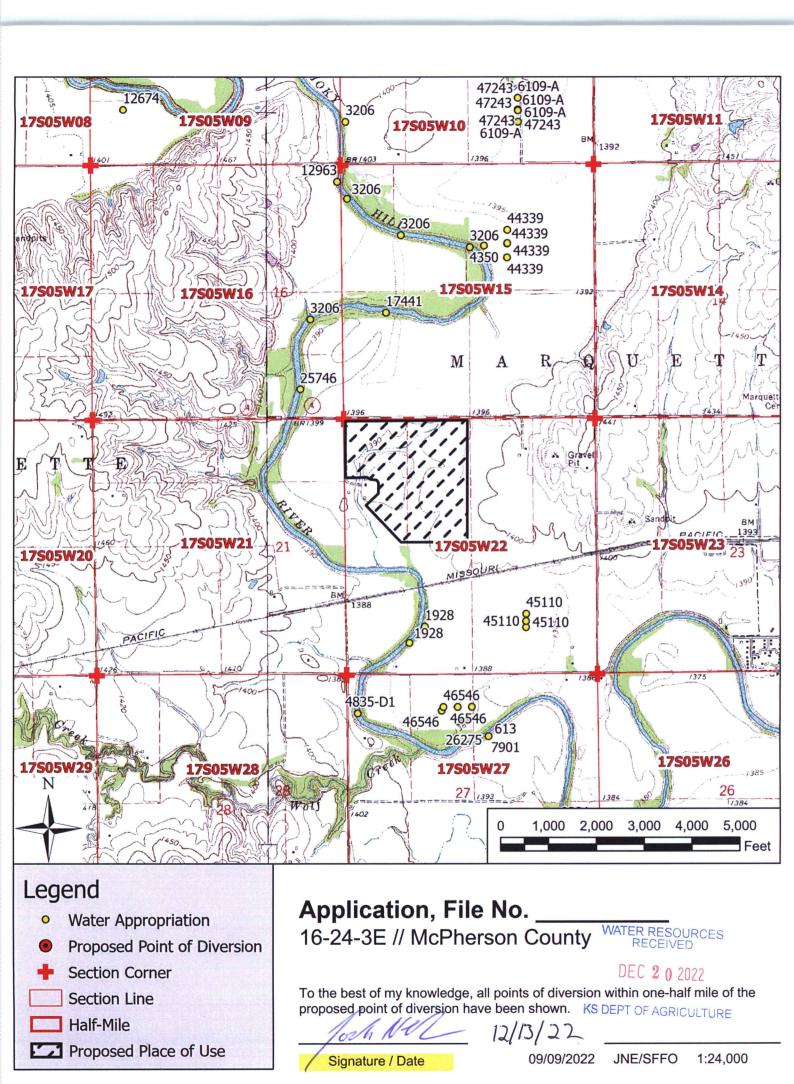
DEC 2 0 2022

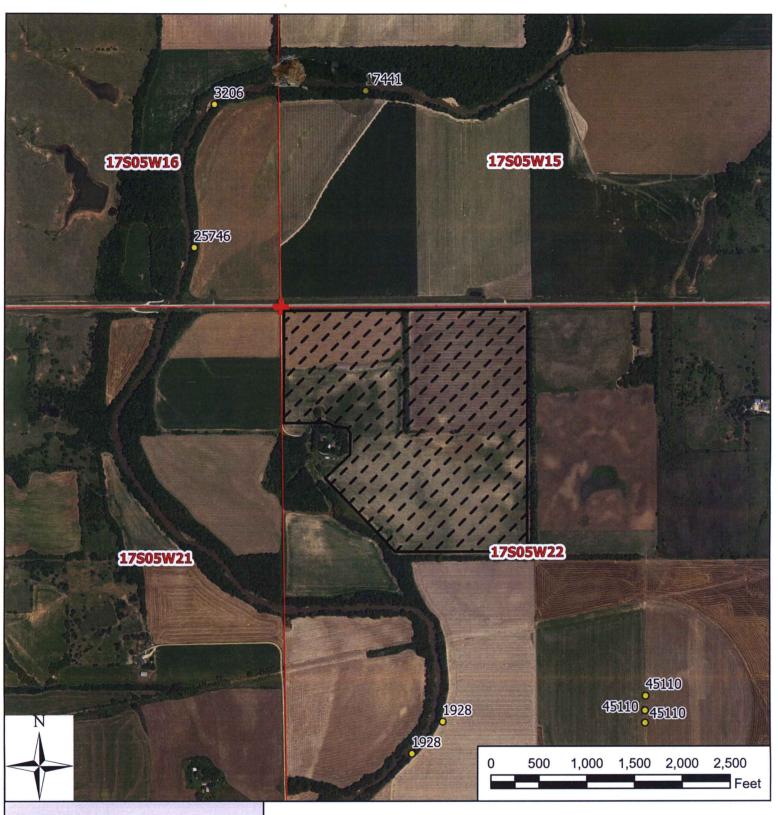
Page 1 of 2

supp	plemental sh	neets as needed.			
a.	Indicate the	e soils in the field(s) and	their intake rates:		
	S	Soil	Percent	Intake	Irrigation
	N	ame	of field	Rate	Design
2310	D		(%)	(in/hr)	Group
7245	Bridgep	ost Silt board		-6-2.0	
2270	McCook	ost Silt Loans Fine Sounds Loans Silt Loans	31.3	.6-2.0	
20112	Roxbury	Silt Luane	54.0	06-2-0	
3095	Geary Si	It Loan	_ , 9	-2-,6	5
	T	otal:	100 %		
b.	Estimate th	e average land slope in the	he field(s):	%	
	Estimate th	e maximum land slope in	n the field(s):	2 %	
c.	Type of irri	gation system you propo	ose to use (check one):		
	X C6	enter pivot	Center piv	ot - LEPA	_ "Big gun" sprinkler
	G1	ravity system (furrows)	Gravity sy	stem (borders)	_ Sideroll sprinkler
	Other, plea	se describe:			
d.	System des	ign features:			
	i. Descr	ibe how you will control	I tailwater: no te	i. luater wit	n pipo +
	ii. For sp	orinkler systems:			,
	(1)	Estimate the operating	pressure at the distrib	oution system: 35	psi
	(2)	What is the sprinkler p	oackage design rate? _	<i>1000</i> gpm	
	(3)	What is the wetted dia	meter (twice the distan	nce the sprinkler throws	water) of a sprinkler on
		the outer 100 feet of th	ne system?	<u>feet</u>	
	(4)	Please include a copy	of the sprinkler packaş	ge design information.	
e.	Crop(s) you	intend to irrigate. Pleas	se note any planned cr	op rotations:	
	Soyber	uns, Corn. 60	Pheat		
f.	Please desc important is	ribe how you will detern f you do not plan a full ir	nine when to irrigate a	nd how much water to a	pply (particularly
	Crop	Consultant			

2. Please complete the following information for the description of the operation for the irrigation project. Attach

You may attach any additional information you believe will assist in informing the Division of the need for your request.





## Legend

- Water Appropriation
- Proposed Point of Diversion
- Section Corner
- Section Line
- Half-Mile
- Proposed Place of Use

## Application, File No. \_

16-24-3E // McPherson County

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DEC 2 0 2022

To the best of my knowledge, all points of diversion within one-half mile of the proposed point of diversion have been shown. KS DEPT OF AGRICULTURE

12/13/22

Signature / Date

09/09/2022

JNE/SFFO

1:12,000



		(Date)
Kansas Department of Agriculture Division of Water Resources David W. Barfield, Chief Engineer 1320 Research Park Drive Manhattan, Kansas 66502		
	Re:	Application File No
Dear Sir:		Minimum Desirable Streamflow
I understand that a Minimum Desirable Streethe legislature for the source of supply to which the		
I understand that diversion of water pur regulation any time Minimum Desirable Streamflow		
I also understand that if this application is a by the Division of Water Resources, when I would this could affect the economics of my decision to a	not be	allowed to divert water. I realize that
I am aware of the above factors, and we Division of Water Resources proceed with process referenced application.		
	Signat	ure of Applicant  OSL Nelso-
State of Kansas ) ) ss County of MePherson )		Applicant's Name)
I hereby certify that the foregoing instrume before me this <u>J3</u> day of <u>December</u> , 20 <u>2</u>		signed in my presence and sworn to
My Commission Expires:  SCOTT M. JOHNSON  SCOTT M. JOHNSON  Notary Public 5-21-3 b  Notary Public 5-21-3 b	Notary	Public  WATER RESOURCE: RECEIVED

# MINIMUM DESIRABLE STREAMFLOW FORM TO BE USED WHEN APPLICABLE WHEN FILING AN APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

The Kansas Legislature has established minimum desirable streamflows for the streams listed below. If your proposed diversion of water is going to be from one of these watercourses or adjacent alluvial aquifers, please complete the back side of this page and submit it along with your application for permit to appropriate water.

Arkansas River
Big Blue River
Chapman Creek
Chikaskia River
Cottonwood River
Delaware River
Little Arkansas River
Little Blue River
Marais des Cygnes River
Medicine Lodge River
Mill Creek (Wabaunsee Co. area)
Neosho River

Ninnescah River
North Fork Ninnescah River
Rattlesnake Creek
Republican River
Saline River
Smoky Hill River
Solomon River
South Fork Ninnescah
Spring River
Walnut River
Whitewater River



United States Department of Agriculture

**NRCS** 

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for McPherson County, Kansas

Nelson, Josh



DEC 2 0 2022 December 13, 2022

### **Preface**

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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## **How Soil Surveys Are Made**

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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## Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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#### MAP LEGEND

#### Area of Interest (AOI)

Area of Interest (AOI)

#### Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

#### **Special Point Features**

(0)

Blowout



Borrow Pit Clay Spot





Closed Depression



**Gravel Pit** 



**Gravelly Spot** 



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip Sodic Spot

#### Spoil Area

Stony Spot

Wet Spot



Very Stony Spot



Other



Special Line Features

#### **Water Features**

Streams and Canals

#### **Transportation**

+++

Interstate Highways



**US Routes** 

Rails



Major Roads

Local Roads

#### **Background**

Aerial Photography

#### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: McPherson County, Kansas Survey Area Data: Version 20, Sep 13, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 15, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2310	Bridgeport silt loam, rarely flooded	18.0	13.7%
2345	McCook fine sandy loam, rarely flooded	41.0	31.3%
2375	Roxbury silt loam, rarely flooded	70.8	54.0%
3843	Geary silt loam, 1 to 3 percent slopes	1.2	0.9%
Totals for Area of Interest		130.9	100.0%

## **Map Unit Descriptions**

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

#### McPherson County, Kansas

#### 2310—Bridgeport silt loam, rarely flooded

#### **Map Unit Setting**

National map unit symbol: 2twlc Elevation: 1,660 to 3,000 feet

Mean annual precipitation: 19 to 30 inches Mean annual air temperature: 48 to 57 degrees F

Frost-free period: 140 to 190 days

Farmland classification: All areas are prime farmland

#### **Map Unit Composition**

Bridgeport, rarely flooded, and similar soils: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### Description of Bridgeport, Rarely Flooded

#### Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

#### Typical profile

Ap - 0 to 6 inches: silt loam A - 6 to 13 inches: silt loam Bk - 13 to 28 inches: silt loam C - 28 to 79 inches: silt loam

#### Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very high (about 12.5 inches)

#### Interpretive groups

Land capability classification (irrigated): 1 Land capability classification (nonirrigated): 2c

Hydrologic Soil Group: B

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

#### **Minor Components**

#### New cambria, rarely flooded

Percent of map unit: 5 percent

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RIDER OF MUNDAL PLANE

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: R073XY120KS - Clay Terrace

Hydric soil rating: No

#### 2345—McCook fine sandy loam, rarely flooded

#### **Map Unit Setting**

National map unit symbol: 2xlgt Elevation: 1,660 to 3,000 feet

Mean annual precipitation: 19 to 30 inches Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 145 to 210 days

Farmland classification: All areas are prime farmland

#### **Map Unit Composition**

Mccook, rarely flooded, and similar soils: 99 percent

Minor components: 1 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### Description of Mccook, Rarely Flooded

#### Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

#### Typical profile

Ap - 0 to 6 inches: fine sandy loam A - 6 to 14 inches: silt loam AC - 14 to 26 inches: silt loam

C - 26 to 79 inches: very fine sandy loam

#### Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.2 inches)

#### Interpretive groups

Land capability classification (irrigated): 2e

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Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

#### **Minor Components**

#### Aquolls, occasionally ponded

Percent of map unit: 1 percent Landform: Depressions Down-slope shape: Concave Across-slope shape: Concave

Ecological site: R073XY108KS - Loamy Floodplain

Hydric soil rating: Yes

#### 2375—Roxbury silt loam, rarely flooded

#### **Map Unit Setting**

National map unit symbol: 307nn Elevation: 1,660 to 3,410 feet

Mean annual precipitation: 19 to 30 inches Mean annual air temperature: 48 to 57 degrees F

Frost-free period: 140 to 190 days

Farmland classification: All areas are prime farmland

#### **Map Unit Composition**

Roxbury, rarely flooded, and similar soils: 79 percent

Minor components: 21 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### Description of Roxbury, Rarely Flooded

#### Setting

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium

#### Typical profile

Ap - 0 to 8 inches: silt loam A - 8 to 22 inches: silt loam

Bk1 - 22 to 33 inches: silty clay loam Bk2 - 33 to 56 inches: silt loam 2Bk3 - 56 to 79 inches: silt loam

#### Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Very low

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Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very high (about 13.1 inches)

#### Interpretive groups

Land capability classification (irrigated): 1 Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

#### **Minor Components**

#### Hord, rarely flooded

Percent of map unit: 10 percent

Landform: Terraces Down-slope shape: Linear Across-slope shape: Linear

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

#### Munjor, occasionally flooded

Percent of map unit: 5 percent Landform: Flood-plain steps

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: R073XY107KS - Sandy Floodplain

Hydric soil rating: No

#### Bridgeport, rarely flooded

Percent of map unit: 5 percent

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: R073XY119KS - Loamy Terrace

Hydric soil rating: No

#### Aquolls, occasionally ponded

Percent of map unit: 1 percent

Landform: Depressions on flood plains Down-slope shape: Concave, linear Across-slope shape: Concave, linear

Ecological site: R073XY103KS - Subirrigated

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Hydric soil rating: Yes

WATER RESOURCES

#### 3843—Geary silt loam, 1 to 3 percent slopes

#### **Map Unit Setting**

National map unit symbol: 2r9cv Elevation: 1,310 to 1,640 feet

Mean annual precipitation: 27 to 34 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 165 to 200 days

Farmland classification: All areas are prime farmland

#### **Map Unit Composition**

Geary and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Geary**

#### Setting

Landform: Hillslopes

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Parent material: Loess

#### Typical profile

Ap - 0 to 8 inches: silt loam

BA - 8 to 15 inches: silty clay loam Bt1 - 15 to 34 inches: silty clay loam Bt2 - 34 to 46 inches: silty clay loam BC - 46 to 54 inches: silty clay loam

C - 54 to 79 inches: silt loam

#### Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 11.9 inches)

#### Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 2e

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Hydrologic Soil Group: C

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

#### **Minor Components**

#### Crete

Percent of map unit: 6 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: R074XY107KS - Clay Hills

Hydric soil rating: No

#### **Smolan**

Percent of map unit: 4 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: R076XY115KS - Loamy Hills

Hydric soil rating: No

#### Edalgo

Percent of map unit: 3 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: R074XY107KS - Clay Hills

Hydric soil rating: No

#### Aquolls, occasionally ponded

Percent of map unit: 1 percent Landform: Depressions Down-slope shape: Concave Across-slope shape: Concave

Ecological site: R074XY132KS - Subirrigated

Hydric soil rating: Yes

#### Lancaster

Percent of map unit: 1 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

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## References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

WATER RESOURCES RECEIVED

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs142p2\_052290.pdf

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Valley Dealer

INMAN IRRIGATION 892 ARAPAHO ROAD INMAN, KS 67546-8002 United States

Dealer No.

00003440

Parent Order No.

Sprinkler Order No. Nelson Josh For Water Permit

Plant VALLEY SHIPPING

Customer

Josh Nelson

3036 Avenue U Marquette, KS 67464-9234

US

Field Name

Nelson, Josh. NW 1/4 22-17-5W McPherson County

Dealer PO

Order Date 12/13/2022

Load Date 12/16/2022

Method Of Shipment UPSG

6 Span Valley Standard Pivot 8000 Machine Flow 1000 (GPM) Pivot Pressure 35 (PSI)

#### Dealer INMAN IRRIGATION

Customer Josh Nelson

Sprinkler Order No

Nelson Josh For Water

KS DEPT OF AGRICULTUR

#### Permit

#### Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

#### Valley Standard Pivot 8000 Machine Summary

Span and Overhang

			Pipe	Coupler		D. U.	
Model	Qty	Length	O.D.	Spacing	Qty	Profile	Tire
		(ft)	(in)	(in)			
8000	2	184.8	6 5/8	108	21	Standard	11.2 x 38
8000	4	180.0	6 5/8	108	20	Standard	11.2 x 38
8000	1	36.0	6 5/8	110	6		

Field Area

Flow

<b>109.3</b> (Ac) Total	<b>1000</b> (GPM)
<b>91.6</b> (Ac) Pivot 360°	9.15 (GPM per Acre)
<b>17.7</b> (Ac) EG on 100%	0.49 (in per day) App Rate
1126.9 (ft) Machine Length	0.245 (in) App Depth @ 100%
<b>103.9</b> (ft)End Gun Radius	<b>123.2</b> (GPM) End Gun
	i

Messages

#### Caution:

- 1. Primary Endgun underwatering by 23.84%
- 2. This design contains double and/or triple sprinklers. Consider using higher pressure and/or flow capacity pressure regulators, double truss rod hose
- 3. slings, and/or double clamp-on drops. Adjustments to the sprinkler package are suggested in outlets (128)
- 4. I-Wob, Orbitor, Twister and Nutator sprinklers require at least 24 in (61 cm) of drop hose. Do not use slip weights or rigid drop materials. Do not install integrated weights on dr with double I-Wob or Nutator sprinklers.

#### Dealer:

None

Pressure

35 (PSI) Pivot Pressure

Inlet Pressure

0.0 (ft) Highest Elevation

0.0 (ft) Lowest Elevation

LRDU Drive Train

34 RPM Center Drive @60 Hz freq.

11.2 x 38 Tire

52:1 Wheel GB Ratio, LRDU Dist 1090.7 (ft)

12.1 Hrs/360° @ 100% 9.45 (Ft per Min)

12.1 Hrs/360° @ 100%

KS DEPT OF AGRICULTURE

**Permit** 

Customer Josh Nelson

Dealer INMAN IRRIGATION

Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

### Valley Standard Pivot 8000 Machine Summary

Sprinkler -- Computer Spacing

Sprinkler Configuration Senninger U-Pipe 6(in) Plastic 3/4 M NPT x 3/4 M Hose

Range (ft)

All

Blue Premium Hose Drop Variable Length 72(in) Ground Clr

Valley Regulator PSR-2 10(PSI) 3/4 F NPT

Senninger Magnum-Threaded Integrated Weight 0.85

Senninger I-Wob2 - UP3 Std Angle 3/4 M NPT





1136.46 (ft) Total Drop Hose Length

Pressure Loss

			Total :	= 12.4
18.1	3.79	Galvanized	150	0.3
1108.8	6.42	Galvanized	150	12.1
Length (ft)	I.D. (in)	Finish	C-Factor	(PSI)
Pipe	Pipe	Pipe		Loss

End Gun(s) & Booster Pump Information



**Primary End Gun** 

Nelson SR100 End Gun 0.8 Nozzle

Berkeley 2 HP Booster Pump

Customer Josh Nelson

Sprinkler Order No

Nelson Josh For Water

Permit

OF AGRICULTURE

Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

Valley Standard Pivot 8000 Machine Summary

Span Flow

Span Number	Irrigated Length (ft)	Area (Ac)	Rqd (GPM)	Act (GPM)	Rqd (GPM per Acre)	Act (GPM per Acre)	% Deviation
1	184.6	2.5	23.4	25.1	9.40	10.09	7.4
2	184.9	7.4	69.7	69.6	9.40	9.39	-0.1
3	180.1	12.0	112.5	112.7	9.40	9.42	0.2
4	180.1	16.6	156.4	156.2	9.40	9.39	-0.1
5	180.1	21.3	200.4	200.5	9.40	9.40	0.0
2 3 4 5 6 O/H EG	179.8	26.0	244.0	244.2	9.40	9.41	0.1
O/H	36.2	5.8	56.0	55.4	9.66	9.56	-1.1
EG	103.9	17.7	161.7	123.2	9.15	6.97	-23.8
Totals		109.3		986.9			
	Drain Sprinkle	er	13.9	14.5			
Total Machine Flow		1001.4					

**Advanced Options** 

Drain Sprinkler = Senninger Directional Last Sprinkler Coverage = 1 ft Sprinkler Coverage Length = 1127.9 ft Use Last Coupler= YES Minimum Mainline Pressure = 6 PSI

### **Shipping Options**

Ship	Dro	р На	rdware						
Ship	End	lgun	Nozzle						
Ship	End	lgun	& Hardw	are					
Do n	ot s	hip	Endgun	Valve	: /	Nozzle	Valve	Hardware	
Do n	ot s	hip	Booster	pump	Наз	rdware			

Customer Josh Nelson

### Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	CES	DEC 2 0 2022 DAY S DEPT OF AGRICULTURE
												WATER RESOUR RECEIVED	0 20 GRICL
1	5.4			Gauge						35.0		A H	N A
2	14.4			Plug	_							AH H	0 1
	Sp	rink	ler : Senn	inger Iwo	b2 - Up3							AT	D EP
												5	KS
3	23.4	1		6	Gold	I-Wob2 - UP3	Std Angle Black	95	PSR-2 10A	34.2	11.4	0.5	
4	32.4	2	9.0	6	Gold	I-Wob2 - UP3	Std Angle Black	101	PSR-2 10A	33.9	11.4	0.4	0.9
5	41.4	3	9.0	6	Gold	I-Wob2 - UP3	Std Angle Black	105	PSR-2 10A	33.5	11.4	0.5	0.9
6	49.9	4	8.5	6	Gold	I-Wob2 - UP3	Std Angle Black	109	PSR-2 10A	33.3	11.4	0.6	0.9
7	58.3	5	8.4	6	Gold	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	33.0	11.4	0.7	0.9
8	66.8	6	8.4	6	Gold	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	32.8	11.4	0.8	0.9
9	75.3	7	8.5	6	Gold	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	32.5	11.4	0.9	0.9
10	84.3	8	9.0	6.5	Gold Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	32.3	11.4	1.0	1.0
11	93.3	9	9.0	7	Lime	I-Wob2 - UP3	Std Angle Black	119	PSR-2 10A	32.1	11.4	1.1	1.2
12	102.3	10	9.0	7	Lime	I-Wob2 - UP3	Std Angle Black	119	PSR-2 10A	32.0	11.4	1.2	1.2
13	111.3	11	9.0	7.5	Lime Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	31.8	11.4	1.3	1.4
14	119.7	12	8.4	7.5	Lime Notched	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	31.7	11.4	1.4	1.4
15	128.1	13	8.4	8	Lavender	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	31.7	11.4	1.5	1.5
16	136.5	14	8.4	8	Lavender	I-Wob2 - UP3	Std Angle Black	113	PSR-2 10A	31.6	11.4	1.6	1.5
17	145.0	15	8.5	8.5	Lavender Notched	I-Wob2 - UP3	Std Angle Black	110	PSR-2 10A	31.6	11.4	1.7	1.7
18	154.0	16	9.0	9	Grey	I-Wob2 - UP3	Std Angle Black	106	PSR-2 10A	31.6	11.4	1.9	1.9
19	163.0	17	9.0	9	Grey	I-Wob2 - UP3	Std Angle Black	101	PSR-2 10A	31.6	11.4	2.0	1.9
20	172.0	18	9.0	9.5	Grey Notched	I-Wob2 - UP3	Std Angle Black	96	PSR-2 10A	31.6	11.4	2.1	2.2
21	181.0	19	9.0	9.5	Grey Notched	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	31.7	11.4	2.2	2.2
	185.6		Tower Nu	mber : 1	Span Length(ft): 184.6								
22	190.3	20	9.3	10	Turquoise	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	31.5	11.4	2.4	2.4
23	199.3	21	9.0	10	Turquoise	I-Wob2 - UP3	Std Angle Black	96	PSR-2 10A	31.1	11.4	2.4	2.4
24	208.3	22	9.0	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	30.8	11.3	2.5	2.6
25	217.3	23	9.0	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	30.4	11.3	2.7	2.6
26	226.3	24	9.0	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	111	PSR-2 10A	30.1	11.3	2.7	2.6
27	234.8	25	8.5	10.5	Turq Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	29.9	11.3	2.7	2.6
28	243.2	26	8.4	11	Yellow	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	29.6	11.3	2.8	2.9

Customer Josh Nelson

### Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

					valley Standard P	ivot 8000 Machine	e Sprinkier Chart				=	20.00
Cpl	Dist	Spk	Dist	Nozzle	Color	Spk	Wear	Drop	Regulator	Line	Spk	Rad Act C
No	From	No	Last	Size		Model	Pad	Length		(PSI)	(PSI	(GPM) (GPM)
	Pivot		Spk					(in)			CY.	A P
	(ft)		(ft)								H	
29	251.6	27	8.4	11	Yellow	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	29.4	11.3	2.9 2.9
30	260.1	28	8.5	11.5	Yellow Notched	I-Wob2 - UP3	Std Angle Black	121	PSR-2 10A	29.2	11.3	3.1 3.2 🖞
31	269.1	29	9.0	11.5	Yellow Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	29.0	11.3	3.3 3.2
32	278.1	30	9.0	12	Red	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	28.9	11.3	3.4 3.4
33	287.1	31	9.0	12	Red	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	28.7	11.3	3.5 3.4
34	296.1	32	9.0	12	Red	I-Wob2 - UP3	Std Angle Black	121	PSR-2 10A	28.6	11.3	3.5 3.4
35	304.5	33	8.4	12	Red	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	28.6	11.3	3.5 3.4
36	312.9	34	8.4	12	Red	I-Wob2 - UP3	Std Angle Black	117	PSR-2 10A	28.5	11.3	3.6 3.4
37	321.4	35	8.4	12.5	Red Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	28.5	11.3	3.7 3.7
38	329.9	36	8.5	13	White	I-Wob2 - UP3	Std Angle Black	111	PSR-2 10A	28.5	11.3	3.9 4.1
39	338.9	37	9.0	13	White	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	28.5	11.2	4.1 4.1
40	347.9	38	9.0	13.5	White Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	28.5	11.2	4.2 4.4
41	356.9	39	9.0	13.5	White Notched	I-Wob2 - UP3	Std Angle Black	96	PSR-2 10A	28.6	11.2	4.4 4.4
42	365.9	40	9.0	13.5	White Notched	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	28.7	11.2	4.5 4.4
	370.5		Tower	Number : 2	Span Length(ft): 184.9							
43	375.2	41	9.3	14	Blue	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	28.6	11.2	4.7 4.7
44	384.2	42	9.0	14	Blue	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	28.2	11.2	4.7 4.7
45	393.2	43	9.0	14	Blue	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	27.8	11.2	4.8 4.7
46	402.2	44	9.0	14.5	Blue Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	27.5	11.2	4.9 5.0
47	411.2	45	9.0	14.5	Blue Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	27.3	11.2	5.0 5.0
48	420.2	46	9.0	14.5	Blue Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	27.0	11.2	5.1 5.0
49	429.2	47	9.0	15	Dark Brown	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	26.8	11.1	5.2 5.4
50	438.2	48	9.0	15	Dark Brown	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	26.6	11.1	5.3 5.4
51	447.2	49	9.0	15	Dark Brown	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	26.4	11.1	5.5 5.4
52	456.2	50	9.0	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	26.2	11.1	5.5 5.7
53	465.1	51	8.9	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	26.1	11.1	5.6 5.7
54	474.1	52	9.0	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	26.0	11.1	5.8 5.7
55	483.1	53	9.0	15.5	Dark Brn Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	26.0	11.1	5.9 5.7
56	492.1	54	9.0	16	Orange	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	25.9	11.1	6.0 6.1
57	501.1	55	9.0	16	Orange	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	25.9	11.1	6.1 6.1
58	510.0	56	8.9	16	Orange	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	25.9	11.0	6.2 6.1
59	519.0	57	9.0	16.5	Orange Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	26.0	11.0	6.3 6.5
60	528.0	58	9.0	16.5	Orange Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	26.1	11.0	6.4 6.5
							2000					

Customer Josh Nelson

### Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	(PSI)		Act OF AGRIC OEPT OF AGRIC 0.5
61	537.0	59	9.0	16.5	Orange Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	26.2	11.0	6.6	
62	546.0	60	9.0	17	Dark Green	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	26.3	11.0	6.8	6.8 🗳
	550.6		Tower	Number : 3	Span Length(ft): 180.1								
63	555.3	61	9.3	17	Dark Green	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	26.2	11.0	6.9	6.8
64	564.3	62	9.0	17	Dark Green	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	25.8	11.0	6.9	6.8
65	573.3	63	9.0	17	Dark Green	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	25.5	11.0	7.0	6.8
66	582.3	64	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	25.3	10.9	7.1	7.3
67	591.3	65	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	25.0	10.9	7.2	7.3
68	600.3	66	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	24.8	10.9	7.3	7.2
69	609.3	67	9.0	17.5	Dark Grn Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	24.6	10.9	7.4	7.2
70	618.3	68	9.0	18	Purple	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	24.4	10.9	7.5	7.7
71	627.3	69	9.0	18	Purple	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	24.3	10.9	7.7	7.7
72	636.3	70	9.0	18	Purple	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	24.2	10.9	7.7	7.7
73	645.2	71	8.9	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	24.1	10.8	7.8	8.1
74	654.2	72	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	24.0	10.8	8.0	8.1
75	663.2	73	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	24.0	10.8	8.1	8.1
76	672.2	74	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	24.0	10.8	8.2	8.1
77	681.2	75	9.0	18.5	Purple Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	24.0	10.8	8.3	8.1
78	690.1	76	8.9	19	Black	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	24.0	10.8	8.4	8.5
79	699.1	77	9.0	19	Black	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	24.1	10.8	8.5	8.5
80	708.1	78	9.0	19	Black	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	24.2	10.7	8.6	8.5
81	717.1	79	9.0	19.5	Black Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	24.4	10.7	8.7	8.9
82	726.1	80	9.0	19.5	Black Notched	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	24.5	10.7	9.0	8.9
	730.7		Tower	Number : 4	Span Length(ft): 180.1								
83	735.4	81	9.3	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	24.5	10.7	9.1	9.4
84	744.4	82	9.0	19.5	Black Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	24.2	10.7	9.1	8.9
85	753.4	83	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	23.9	10.7	9.2	9.4
86	762.4	84	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	23.6	10.7	9.3	9.4
87	771.4	85	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	23.4	10.6	9.4	9.4
88	780.4	86	9.0	20	Dark Turquoise	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	23.2	10.6	9.5	9.3
89	789.4	87	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	23.1	10.6	9.6	
90	798.4	88	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.9	10.6	9.7	9.8
91	807.4	89	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.8	10.6	9.9	9.8
Default	Sprinkler	Chart -	- 12/13/202	22									3

Sprinkler Order No Nelson Josh For Water Permit

County

Customer Josh Nelson

### Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

Cpl No	Dist From Pivot (ft)	Spk No	Dist Last Spk (ft)	Nozzle Size	Color	Spk Model	Wear Pad	Drop Length (in)	Regulator	Line (PSI)	Spk (PSI)	WATER RES	Act (GPM)
92	816.4	90	9.0	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	22.7	10.6	9.9	9.8
93	825.3	91	8.9	20.5	Drk Turq Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.7	10.5	10.0	9.8
94	834.3	92	9.0	21	Mustard	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.7	10.5	10.2	10.2
95	843.3	93	9.0	21	Mustard	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.7	10.5	10.3	10.2
96	852.3	94	9.0	21	Mustard	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	22.7	10.5		
97	861.3	95	9.0	21.5	Mustard Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	22.8	10.4	10.4	10.8
98	870.2	96	8.9	21	Mustard	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	22.9	10.5	10.6	10.2
99	879.2	97	9.0	21.5	Mustard Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	23.0	10.4	10.7	10.8
100	888.2	98	9.0	21.5	Mustard Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	23.1	10.4		
101	897.2	99	9.0	22	Maroon	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	23.3	10.4	10.9	11.2
102	906.2	100	9.0	22	Maroon	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	23.5	10.3	11.3	11.2
	910.8		Tower	Number : 5	Span Length(ft): 180.1								
103	915.5	101	9.3	22	Maroon	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	23.4	10.3	11.4	11.2
104	924.5	102	9.0	22	Maroon	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	23.2	10.3	11.3	11.2
105	933.5	103	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	22.9	10.3	11.4	11.7
106	942.5	104	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	22.7	10.3	11.5	11.7
107	951.5	105	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	22.5	10.3	11.6	11.7
108	960.5	106	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	22.4	10.3	11.7	11.7
109	969.5	107	9.0	22.5	Maroon Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	22.3	10.2	11.8	11.6
110	978.5	108	9.0	23	Cream	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.2	10.2	11.9	12.1
111	987.5	109	9.0	23	Cream	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.1	10.2	12.0	12.1
112	996.5	110	9.0	23	Cream	I-Wob2 - UP3	Std Angle Black	123	PSR-2 10A	22.0	10.2	12.1	12.1
113	1005.4	111	8.9	23	Cream	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.0	10.2	12.2	12.1
114	1014.4	112	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	122	PSR-2 10A	22.0	10.1	12.4	12.6
115	1023.4	113	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	120	PSR-2 10A	22.1	10.1	12.5	12.6
116	1032.4	114	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	118	PSR-2 10A	22.1	10.1	12.6	12.6
117	1041.4	115	9.0	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	115	PSR-2 10A	22.2	10.1	12.6	12.6
118	1050.3	116	8.9	23.5	Cream Notched	I-Wob2 - UP3	Std Angle Black	112	PSR-2 10A	22.3	10.1	12.7	12.6
119	1059.3	117	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	107	PSR-2 10A	22.5	10.0	12.9	13.1
120	1068.3	118	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	22.6	10.0	13.0	13.1
121	1077.3	119	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	22.8		13.1	
122	1086.3	120	9.0	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	90	PSR-2 10A	23.1	10.0	13.1	13.1
123	1090.1			B.P.									

Parent	Order	M
ratent	Order	INO

Sprinkler Order No Nelson Josh For Water Permit

Customer	Josh	Nelson	
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### Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson County

### Valley Standard Pivot 8000 Machine Sprinkler Chart

Cpl	Dist	Spk	Dist	Nozzle	Color	Spk	Wear	Drop	Regulator	Line	Spk	Rqd NAct
No	From	No	Last	Size		Model	Pad	Length		(PSI)		CGPM) (GPM)
	Pivot		Spk					(in)			ļ	10
	(ft)		(ft)								\$	
	1090.7		Tower	Number: 6	Span Length(ft): 179.8							\$
124	1095.1	121	8.8	24	Dark Blue	I-Wob2 - UP3	Std Angle Black	89	PSR-2 10A	23.1	9.9	13.3 13.0
125	1104.3	122	9.2	24.5	Drk Blue Notched	I-Wob2 - UP3	Std Angle Black	93	PSR-2 10A	22.9	9.9	13.5 13.5
126	1107.8			Plug								
127	1113.2	123	8.9	24.5	Drk Blue Notched	I-Wob2 - UP3	Std Angle Black	97	PSR-2 10A	22.8	9.9	13.7 13.5
128	1122.4	124	9.2	18	Purple	I-Wob2 - UP3	Std Angle Black	102	PSR-2 10A	22.5	10.9	15.4 15.3
		124		18	Purple	I-Wob2 - UP3	Std Angle Black		PSR-2 10A			
		Spri	nkler :	Senninger	Spray							
129	1125.9	125		21	Mustard	Directional				21.8	21.8	13.9 14.5
	1126.9			Overhang	Span Length(ft): 36.2							
		Spr	inkler	: Nelson End	dgun							
	1126.9			0.8		SR100				21.8	46.6	161.7 123.2

Primary Endgun Arc Settings: Forward Angle: 45 Reverse Angle: 80

1001.3

Dealer

INMAN IRRIGATION

Customer Josh Nelson

Field Name Nelson, Josh. NW 1/4 22-17-5W McPherson

County



Sprinkler Order No Nelson Josh For Water Permit

Parent Order No

RECEIVED RECEIVED

Valley Standard Pivot 8000 Percent Timer Data

Based on % Timer

Setup Information - Valley Computer Control Panel Wate	r Application Constants Minimu	nm Annlication = 0.245 (in)	Hours/ $360^{\circ} = 12.1$
Scrup intormation - vancy Computer Control rance water	Application Constants. Minimu	um Appucation — 0.243 (m)	110013/300 12.1

1 -		
Based on IN		
IN Per	Pivot	Hours Per
360 degrees	% Timer	360 degrees
0.245	100.0	12.1
0.30	81.6	14.8
0.40	61.2	19.8
0.50	48.9	24.7
0.60	40.8	29.7
0.70	35.0	34.6
0.80	30.6	39.5
0.90	27.2	44.5
1.00	24.5	49.4
1.25	19.6	61.7
1.50	16.3	74.2
1.75	14.0	86.4
2.00	12.2	99.2
2.50	9.8	123.5
3.00	8.2	147.6
3.50	7.0	172.9
4.00	6.1	198.4

Daseu on 76 III	inei		
Pivot	IN Per	Hours Per	
% Timer	360 degrees	360 degrees	
100.0	0.245	12.1	
90.0	0.27	13.4	
80.0	0.31	15.1	
70.0	0.35	17.3	
60.0	0.41	20.2	
50.0	0.49	24.2	
45.0	0.54	26.9	
40.0	0.61	30.3	
35.0	0.70	34.6	
30.0	0.82	40.3	
25.0	0.98	48.4	
20.0	1.22	60.5	
17.5	1.40	69.1	
15.0	1.63	80.7	
12.5	1.96	96.8	
10.0	2.45	121.0	
7.5	3.26	161.3	
5.0	4.89	242.0	

Field Area	Flow	Pressure	LRDU Drive Train
<b>109.3</b> (Ac) Total	1000 (GPM)	35 (PSI) Pivot Pressure	34 RPM Center Drive @ 60 Hz freq.
<b>91.6</b> (Ac) Pivot 360°	9.15 (GPM per Acre)	Inlet Pressure	11.2 x 38 Tire
17.7 (Ac) EG on 100%	0.49 (in per day) App Rate	<b>0.0</b> (ft) Highest Elevation	52:1Wheel GB Ratio, LRDU Dist 1090.7(ft)
1126.9(ft)Machine Length	<b>0.245</b> (in) App Depth @ 100%	<b>0.0</b> (ft) Lowest Elevation	12.1 Hrs/360° @ 100% (9.45 )(Ft per Min)
103.9(ft)End Gun Radius	<b>123.2</b> (GPM) End Gun	L	<b>12.1</b> Hrs/360° @ 100%
<u> </u>			Ĺj

### Disclaimer

The information presented in the attached Percent Timer Report is based on variables which cannot be totally controlled by Valmont (including, but not limited to; pivot pressure, inside pipeline surface, end gun throw, end gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, well capacity, center drive motor voltage, center drive motor frequency, climatic conditions and other elements and circumstances beyond Valmont's reasonable control). Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

INPUTS	
Target Section Definition	
Section	22
Township	17
Range	5
Range Direction	W
Target Point Coordinates (NAD)	27 or <i>NAD8</i> 3)
Target Longitude	-97.865210
Target Latitude	38.564040

### **Load Data and Compute**

### Instructions

- 1. Enter values for section, township, range and range direction.
- 2. Enter NAD27 or NAD83 longitude and latitude of target point.
- 3. Click "Load Data and Compute" button.
- 4. Use feet distances corresponding to datum of target point.

Application, File No. 50,928 Geo Center

	Loaded Section	Data
	From LEOBASE usi	ng <i>NAD83</i>
Corner	Corner Latitudes	Corner Longitudes
SW	38.55130787	-97.86949485
NW	38.56584980	-97.86963181
NE	38.56581862	-97.85118408
SE	38.55130787	-97.85107730
Degrees	s Longitude per Foot	3.49684532E-06
Degrees	s Latitude per Foot	2.74582700E-06
Target	t Point Distances from C	orners using NAD83
Corner	Feet North(+)/South(-)	Feet East(-)/West(+)
SW	4637	-1225
NW	-659	-1265
NE	-648	4011
SE	4637	4042

	Loaded Section	Data
Fre	om LEOBASE usii	ng <i>NAD27</i>
Corner Corne	r Latitudes	Corner Longitudes
SW	38.55130000	-97.86917100
NW	38.56584200	-97.86930800
NE	38.56581100	-97.85086100
SE	38.55130000	-97.85075400
<b>Degrees Long</b>	itude per Foot	3.49684494E-06
Degrees Latitu	ide per Foot	2.74598553E-06
Target Point	Distances from C	orners using NAD27
Corner Feet N	lorth(+)/South(-)	Feet East(-)/West(+)
SW	4640	-1133
NW	-656	-1172
NE	-645	4103
SE	4640	4134

3/3/2023 RECEIVED

Stafford Field Office

### **DATA ENTRY SYSTEM ID NUMBER SHEET**

FILE NUMBER	50928			•			
APPLICANT PERSON ID & SEQ #		89951	PDIV ID		_	BATTER	Y ID
68789			·				
			· · · · · · · · · · · · · · · · · · ·		_		
	<del></del>	,					
LANDOWNER PERSON ID & SEQ #		71158	PUSE ID		<b></b>		
68566		71159		•			
68788					_	,	
					_		
							,
WATER USE CORRESP	PONDENT		•				
PERSON ID & SEQ #							
68566				•			
					`		
	<del></del>			•			

**Darling Drilling Company**Telephone (620) 662-7901 3916 W. 56<sup>th</sup> Ave. Hutchinson, Ks. 67501

### DRILLER'S TEST LOG

MAR 10 2023

KS DEPT AGRICULTURE

Date: 2/22/2023

Name: Josh Nelson Well #3

County: McPherson, KS

Quarter: NW Section: 22 Township: 17S Range: 5W

Quui	ter. INW	Section. 22 Township. 173	Ttt	N	
DRILLED I	FOOTAGE				7
From	То	DESCRIPTION OF STRATA		•	
0	3	Top soil		1	
3	15	Brown clay			
15	20	River mud		1	
20	35	Small, fine sand	(4)	1	_
35	44	Medium sand			E
	44	Shale			
					-
				1	
	-			Static water level 14	
	-			Static water level: 14	
	-			Depth of well: 44'  Type & size of casing: 5" 160#	
	-			Plain: 0 to 34'	
	1			Perf: 34' to 44'	
				Gravel pack intervals:	_
				Grout material: to	_
				Contamination:	
				Direction from well:	
				Casing above surface:	
				Bore hole:	
		Directions: From Marquette, 1 1/2W, SSR		Remarks:	
				Est. 175GPM	
	-	1 24 29 56404			_
		Lat: 38.56404 Long: 097.86521			
		<u></u>			



### \*60 DAYS TO LOCATE

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

010	(4)	specifically described, minimal legal quarter section of land.	
Geo CAV.	(A)	One in the NE quarter of the NW quarter of Section 22,	
		described as being near a point feet North and 4042 feet West of the Souther	
		section, in Township <u>17</u> South, Range <u>5</u> West, <u>McPherson</u>	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 Southea	ast corner of said
		section, in Township South, Range ,	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 Souther	ast corner of said
		section, in Township South, Range ,	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 Souther	ast corner of said
		section, in Township South, Range ,	County, Kansas.
	well	ne source of supply is groundwater, a separate application shall be filed for each proposed is, except that a single application may include up to four wells within a circle with a quar the same local source of supply which do not exceed a maximum diversion rate of 20 gallows.	ter (¼) mile radius
	thar pum	nattery of wells is defined as two or more wells connected to a common pump by a maning four wells in the same local source of supply within a 300 foot radius circle which are but now not to exceed a total maximum diversion rate of 800 gallons per minute and which summon distribution system.	eing operated by
6.	The	e owner of the point of diversion, if other than the applicant is (please print):  Crry Hedund Rev Trust TTEE 1950 5th Ave M (name, address and telephone number)  (name, address and telephone number)	cPherson
	land	u must provide evidence of legal access to, or control of, the point of diversion from the downer's authorized representative. Provide a copy of a recorded deed, lease, eacument 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 landowner or the landowner's authorized representative. I declare under penalty of put the foregoing is true and correct.  Executed on 12/14/22, 2022.  Applicant's Signature	
	land app	e applicant must provide the required information or signature irrespective of wheth downer. Failure to complete this portion of the application will cause it to be unacceptable blication will be returned to the applicant.	
7.	The	e proposed project for diversion of water will consist of Battery of Wells, pumps or dai	15
	and	will be completed. As soon as approved	
	8.	(Month/Day/Year - each was or will be completed) The, first actual application of water for the proposed beneficial use was or is estimated	to be As soon as
	app	proved	(Mo/Day/Year)

1320 Research Park Drive Manhattan, KS 66502 785-564-6700 www. agriculture.ks.gov



900 SW Jackson, Room 456 Topeka, KS 66612 785-296-3556

Mike Beam, Secretary

Laura Kelly, Governor

February 7, 2023

JOSH NELSON 3036 AVE U MARQUETTE KS 67464

RE: Application, File No(s). **50928** 

Dear Sir or Madam:

The Division of Water Resources (Division) has received your application(s) for a permit to appropriate water for beneficial use. Your application(s) has been assigned the file number(s) referenced above. Please be aware that the Division may have a large number of pending applications on hand at times and makes every attempt to process them in the order in which they are received. You will be contacted if additional information is required.

Please note, this letter only acknowledges receipt of your application(s) and does not guarantee approval. In accordance with the provisions of the Kansas Water Appropriation Act, the use of water as proposed prior to approval of the application(s) is unlawful.

Additional information about the process may be found on our website at <u>agriculture.ks.gov/divisions-programs/dwr</u>. If you have any other questions, please contact our office at 785-564-6640 or your local Stockton Field Office at 785-425-6787. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

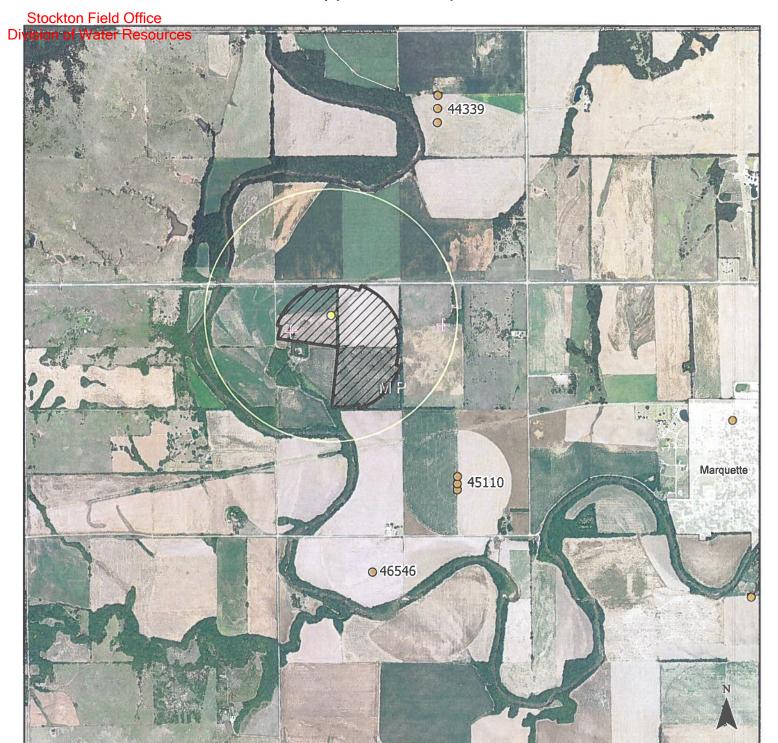
Kris Neuhauser

**New Applications Lead** 

Water Appropriation Program

Received

### Revised New Application Map, File No. 50,928



Scale: 1:24,000

Signature Required

By signing this I am stating that to the best of my knowledge that all wells of any kind within 1/2 mile of the proposed point of diversion are identified on this map or listed on an attachment to this map.

- Groundwater Point of Diversion
- Proposed Point of Diversion
- Domestic Well



Proposed Place of Use

Received

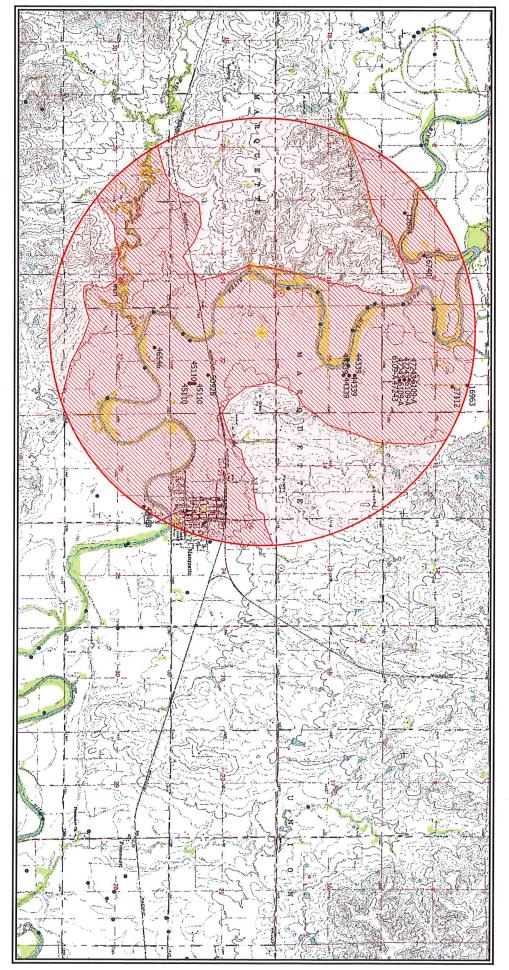
File No. 50,928

	n of	on Field Office f Water Resources Il pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion	on works?
		Yes 🗹 No If "yes", a check valve shall be required.	
	All	chemigation safety requirements must be met including a chemigation permit and reporting requ	irements.
10.	sul	you are planning to impound water, please contact the Division of Water Resources for assistance omitting the application. Please attach a reservoir area capacity table and inform us of the total face drainage area above the reservoir.	
		ve you also made an application for a permit for construction of this dam and reservoir with the I ater Resources? □ Yes    ☑ No	Division of
	•	If yes, show the Water Structures permit number here	
	•	If no, explain here why a Water Structures permit is not required	-
11.		e application <u>must</u> be supplemented by a U.S.G.S. topographic map, aerial photograph or a de	
	sec	owing the following information. On the topographic map, aerial photograph, or plat, identify the ce ction, the section lines or the section corners and show the appropriate section, township and range so, please show the following information:	
	(a)	The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other works) should be plotted as described in Paragraph No. 5 of the application, showing the No 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 kin mile of the proposed well or wells. Identify each existing well as to its use and furnish the name at address of the property owner or owners. If there are no wells within ½ mile, please advise us.	
	(c)	If the application is for surface water, the names and addresses of the landowner(s) ½ mile downs ½ mile upstream from your property lines must be shown.	tream and
	(d)	The location of the proposed place of use should be shown by crosshatching on the topographic nephotograph or plat.	nap, aeria
	(e)	Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the diversion to the place of use.	ne point o
		A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township a numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, I Kansas 66047.	
12.	poi	t any application, appropriation of water, water right, or vested right file number that covers the same ints or any of the same place of use described in this application. Also list any other recent mode to existing permits or water rights in conjunction with the filing of this application.	
			200

File No. 50,928

13.	has not been completed, gi					undwater. If the well
	Information below is from:	☐ Test holes	☐ Well a	s completed	☑ Drillers	log attached
	Well location as shown in p	aragraph	(A)	(B)	(C)	(D)
	Date Drilled					
	Total depth of well	_				
	Depth to water bearing form	nation				
	Depth to static water level	name.				
	Depth to bottom of pump in	take pipe				<del> </del>
14.	The relationship of the a		proposed pla	ace where th	e water will	be used is that of
4.5			:	Ale on Ale on Ale o	numicont is (	ologoo print\;
15.	The owner(s) of the propert	•				orease print).
	Terry A. Hedlund Revocabl	e Trust 1950 5" (name, addr	ress and telep	son, KS 6746 chone number	)	
		(name, addi	ress and tele	ohone number	)	
16.	The undersigned states that this application is submitted		set forth abov	e is true to the	best of his/he	r knowledge and that
		/, Kansas	s, this <u>17</u>	day of	(month)	2024 (vear)
Montan	(Applicant Signatu	-	_		(iioiiii)	(jour)
Ву	7				5/21/	2024
DĀ	(Agent or Officer Sign	nature)				Received
	(Agent or Officer - Plea	se Print)				ockton Field Office ion of Water Resources
Assiste	d by <u>DLM</u>		STKFO/ECRS	S II	Date: <u>5</u>	/16/24

Footages from SE corner- 4,637 feet North 4,042 feet West Water Right- Proposed Point of Diversion Point of Diversion in 22-17S-05W Safe Yield Report Sheet



## **Analysis Results**

The selected PD is in an area OPEN to new appropriations.

The safe yield based on the variables listed below is 674.80 AF.

Total prior appropriations in the circle is 684.23 AF. \$23.03 AF.

Total quantity of water available for appropriation is 0.00 AF.— 151.77 AF AVAIL.

# Safe Yield Variables

The area used for the analysis is set at 4,908 acres. The potential annual recharge at the circle center is estimated to be 2.2 inches. The percent of recharge available for appropriation is 75%.

Temporary water rights have been excluded. Authorized Quantity values are as of 27-FEB-2024 and are based on Appropriated and Vested ground water right and possible stream nodes for GMD #2. Domestic, Term and

There are 12 water rights and 19 points of diversion within the circle.

125.00	125.00	161.20	161.20	WR	7	17 05W	22	1920	1920	MW	IRR AY G	A 50928 00
				WR	11	17 05W	10	1599	1133			Same
				WR	10	17 05W	10	1595	885	NW SW SE	IRR NK G	Same
				WR	4	17 05W	10	1601	1377	WW		Same
0.00	100.00	5.00	23.00	WR	8	17 05W	10	1601	1136	SW		A 47243 00
31.50	31.50	17.00	17.00	WR	14	17 05W	27	3337	4543	NE		A 46546 00
				WR	9	17 05W	22	1498	1097	SW		Same
				WR	8	17 05W	22	1503	958	WS		Same
95.00	95.00	105.00	105.00	WR	7		22	1492	1235	SW		A 45110 00
				WR	13	17 05W	15	1847	3387	SW		Same
				WR	12		15	1841	3682	SW		Same
				WR	11		15	1841	3951	SW		Same
0.00	70.00	0.00	105.00	WR	10	17 05W	15	1843	3673	WS		A 44339 00
		46.03	46.03	WR	ω		23	1190	2385		_	VMP 700
24.44	24.44	8.00	8.00	WR	ω		26	775	4050	NE		A 42468 00
0.00	80.00	25.00	25.00	WR	6		10	1250	3520	SE		A 27112 00
80.00	80.00	95.00	95.00	WR	S	17 05W	10	1250	4350	SW NE NE		A 16963 00
82.00	82.00	133.00	133.00	WR	4		09	2355	2175	WW		A 16740 00
52.00	52.00	22.00	22.00	WR	1		09	0	0	SW		A 12674 00
				WR	11		10	1599	1133	SW		Same
				WR	10		10	1595	885	SW		Same
				WR	4	17 05W	10	1601	1377	WW		Same
100.00	100.00	67.00	67.00	WR	8	70.2	10	1601	1136	SW		A 6109 A
Net Acres	Tot Acres	Add Quant	Auth Quant	Qind	ID	Twp Rng	Sec	FeetW	FeetN		ST SR	File Number

### Limitations

ļ		
File	e Number	File Number Seq Num Limitations
$\triangleright$	A 44339 00	1 105AF/YR COM/W #4350
A	A 47243 00	2 72 AF @ 650 GPM COM/W #6109-A

From: Stewart, Kelly [KDA]

Sent: Thu 6/13/2024 9:34 AM

To: Means, David [KDA]

Cc: Hageman, Nancy [KDA]

**Subject:** RE: New Application File No. 50928 Recommendation

David,

I recommend approval of this application.

Kelly

From: Means, David [KDA] <David.Means@ks.gov>

Sent: Wednesday, June 12, 2024 9:56 AM

To: Stewart, Kelly [KDA] < Kelly. Stewart@ks.gov>

Subject: New Application File No. 50928 Recommendation

Kelly,

Attached is the memo for 50,928. Please provide your recommendation and/or comments.

Thanks,

David



### KANSAS DEPARTMENT OF AGRICULTURE Mike Beam, Secretary of Agriculture

**DIVISION OF WATER RESOURCES**Earl D. Lewis Jr., Chief Engineer

### APPROVAL OF APPLICATION and PERMIT TO PROCEED

(This Is Not a Certificate of Appropriation)

This is to certify that I have examined Application, File No. 50,928 of the applicant

### JOSH NELSON 3036 AVE U MARQUETTE KS 67464

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

- 1. That the priority date assigned to such application is **December 20, 2022**.
- 2. That the water sought to be appropriated shall be used for irrigation use on land described in the application, as follows:

Sec. Twp. Range	NE1/4				NW1/4				SW1/4				SE1/4				
	NE1/4	NW1/4	SW1/4	SE1/4	TOTAL												
22 - 17S - 5W					30.75	29.75	2.75	30.75									94.00

- 3. That the authorized source from which the appropriation shall be made is groundwater, to be withdrawn by means of a battery of four (4) wells, with a geographical center located in the Northeast Quarter of the Northwest Quarter (NE½ NW½ NW½) of Section 22, more particularly described as being near a point 4,637 feet North and 4,042 feet West of the Southeast corner of said section, in Township 17 South, Range 5 West, McPherson County, Kansas, located substantially as shown on the topographic map accompanying the application.
- 4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **800** gallons per minute (1.78 c.f.s.) and to a quantity not to exceed **122.2** acre-feet of water for any calendar year.
- 5. That installation of works for diversion of water shall be completed on or before <u>December 31, 2025</u>, or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

File No. 50,928 Page 2 of 3

6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before <u>December 31, 2029</u>, or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

- 7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.
- 8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.
- 9. That the right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.
- 10. That this permit does not constitute authority under K.S.A. 82a-301 through 305a to construct any dam or other obstruction; nor does it grant any right-of-way, or authorize entry upon or injury to, public or private property.
- 11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.
- 12. That all wells with a diversion rate of 100 gallons per minute or more drilled under the authority of this permit shall have a tube or other device installed in a manner acceptable to, and in accordance with specifications adopted by, the Chief Engineer. This tube or device shall be suitable for making water level measurements and shall be maintained in a condition satisfactory to the Chief Engineer.
- 13. That an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with Kansas Administrative Regulations 5-1-4 through 5-1-12 adopted by the Chief Engineer. The required water flow meter shall be used to provide an accurate quantity of water diverted as required for the annual water use report (including the meter reading at the beginning and end of the report year).
- 14. That the applicant shall maintain accurate and complete records from which the quantity of water diverted during each calendar year may be readily determined and the applicant shall file an annual water use report with the Chief Engineer by March 1 following the end of each calendar year. Failure to file the annual water use report by the due date shall cause the applicant to be subject to a civil penalty.
- 15. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.
- 16. That the right to appropriate water under authority of this permit is subject to any minimum desirable streamflow requirements identified and established pursuant to K.S.A. 82a-703c for the source of supply to which this water right applies.

File No. 50,928 Page 3 of 3

17. That this permit is further limited such that all wells shall be located within a three hundred (300) foot radius circle, in the same local source of supply, shall be limited to a total maximum combined diversion rate not in excess of **800 gallons per minute (1.78 c.f.s.)** and shall supply water to a common distribution system.

18. That failure without cause to comply with provisions of the permit and its terms, conditions and limitations will result in the forfeiture of the priority date, revocation of the permit and dismissal of the application.

Ordered this 13 day of June

, 2024, in Manhattan, Riley County, Kansas.

Lane P. Litourneau

Lane P. Letourneau, P.G. Water Appropriation Program Manager Division of Water Resources Kansas Department of Agriculture

State of Kansas )
) SS
County of Riley )

The foregoing instrument was acknowledged before me this day of day of Lane P. Letourneau, P.G., Water Appropriation Program Manager, Division of Water Resources, Kansas Department of Agriculture.

Notary Public

NOTARY

PUBLIC

TONY JAY CONNORS My Appointment Expires May 18, 2027 1320 Research Park Drive Manhattan, KS 66502 785-564-6700 www. agriculture.ks.gov



900 SW Jackson, Room 456 Topeka, KS 66612 785-296-3556

Mike Beam, Secretary

Laura Kelly, Governor

June 17, 2024

JOSH NELSON 3036 AVE U MARQUETTE KS 67464

RE: Appropriation of Water

File No. 50,928

Dear Mr. Nelson:

Enclosed is a permit authorizing you to proceed with construction of the proposed diversion works and to appropriate water for beneficial use as set forth in the permit. Your attention is directed to the enclosures and to the terms, conditions, limitations, and requirements specified in this permit.

Notice must be filed on the enclosed form once the diversion works have been completed. Failure to complete the diversion works within the time allowed, or within any authorized extension of time thereof, will result in dismissal of this permit. If you need an extension of time, you must request it before the deadline for completion set forth in the permit. Any request for an extension of time must be accompanied by the statutorily required fee, which is currently \$100.00.

An annual water use report must be filed with the Chief Engineer by March 1, following the end of each calendar year. If a complete annual water use report is not received by the deadline, then a fine may be assessed and all water use under such permit or right may be suspended. Reports submitted in paper form will be assessed a \$20 per file number paper filing fee. In order to avoid this filing fee, you may submit your report online at www.kswaterusereport.org.

The approval of your application constitutes a permit to appropriate water. It does not give authority to construct any dam or other stream obstruction regulated by K.S.A. 82a-301 through 305a. It does not give authority to access any right-of-way or authorize trespassing upon or injury to public or private property. It may also be necessary for you to comply with other local, state or federal requirements.

Enclosed is an informational sheet that sets forth the procedure to obtain a Certificate of Appropriation which will establish the extent of your perfected water right. Additional information and applicable forms may be found on our website at <u>agriculture.ks.gov/dwr</u>. If you have any questions or need assistance with any of these requirements, please contact our office at 785-564-6640, or your local Stockton Field Office at 785-425-6787. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

Kristen A. Baum

New Applications and Changes Supervisor

Division of Water Resources

KAB:kak:dlm Enclosure(s)

pc: Terry A. Hedlund Rev. Trust

Stockton Field Office

### RIGHT TO A HEARING AND TO ADMINISTRATIVE REVIEW

If you are aggrieved by this Order, then pursuant to K.S.A. 82a-1901, you may request an evidentiary hearing before the Chief Engineer, or request administrative review by the Secretary of Agriculture. Failure to request an evidentiary hearing before the Chief Engineer does not preclude your right to administrative review by the Secretary.

To obtain an evidentiary hearing before the Chief Engineer, a written request for hearing must be filed within 15 days after service of this Order as provided in K.S.A. 77-531 (i.e., within a total of 18 days after this Order was mailed to you), with: Kansas Department of Agriculture, Attn: Legal Division, 1320 Research Park Drive, Manhattan, Kansas 66502, FAX (785) 564-6777.

If you do not file a request for an evidentiary hearing before the Chief Engineer, you may petition for administrative review of the Order by the Secretary of Agriculture. A petition for review shall be in writing and state the basis for requesting administrative review. The request for review may be denied if the request fails to clearly establish factual or legal issues for review. See K.S.A. 77-527. The petition must be filed within 30 days after service of this Order as provided in K.S.A. 77-531 (i.e., within a total of 33 days after this Order was mailed to you), and be filed with: Secretary of Agriculture, Attn: Legal Division, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, FAX (785) 564-6777.

If neither a request for an evidentiary hearing nor a petition for administrative review is filed as set forth above, then this Order shall be effective and become a final agency action as defined in K.S.A. 77-607(b). Failure to timely request either an evidentiary hearing or administrative review may preclude further judicial review under the Kansas Judicial Review Act.

### CERTIFICATE OF SERVICE

On this 17 day of June , 2024, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 50,928, dated June 13 , 2024, was mailed postage prepaid, first class, US mail to the following:

JOSH NELSON 3036 AVE U MARQUETTE KS 67464

With photocopies to:

TERRY A HEDLUND REV TRUST 1950  $5^{TH}$  AVE MCPHERSON KS 67460

KDA-DWR Stockton Field Office

Division of Water Resources