

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

1. File Number: 48,866	2. Status Change Date:	3. Field Office: 02	4. GMD: 0
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5. Status: Approved Denied by DWR/GMD Dismiss by Request/Failure to Return

6. Enclosures: Check Valve N of C Form Water Tube Driller Copy Meter

7a. Applicant(s)
New to system Person ID 1480
Add Seq# 26

CITY OF WICHITA
PARK AND RECREATION DEPARTMENT
% ~~MATT TOWNSEND~~ - CS Watson Park *
455 N MAIN ST 11TH FLOOR
WICHITA KS 67202

7c. Landowner(s)
New to system Person ID _____
Add Seq# _____

7d. Misc.
New to system Person ID _____
Add Seq# _____

7b. Landowner(s)
New to system Person ID _____
Add Seq# _____

7a.

8. WUR Correspondent
New to system Person ID _____
Add Seq# _____
Overlap File (s) WUC
Agree Yes No Notarized WUC Form

9. Use of Water: Changing? Yes No

Groundwater Surface Water

IRR REC DEW MUN

STK SED DOM CON

HYD DRG WTR PWR ART RECHRG

IND SIC: _____ OTHER: _____

10. Completion Date: 12/31/2018 11. Perfection Date: 12/31/2037 12. Exp Date: _____

13. Conservation Plan Required? Yes No Date Required: _____ Date Approved: _____ Date to Comply: _____

14. Water Level Measuring Device? Yes No Date to Comply: _____ Date WLMD Installed: _____

* Address Change ok'd by DWS 6/29/2017

Date Prepared: **6/7/2017** By: **DWS**
Date Entered: 7/5/2017 By: UM

File No. **48,866** 15. Formation Code: 113 Drainage Basin: ARKANSAS RIVER County: SG Special Use: Stream:

16. Points of Diversion

MOD	DEL	ENT	PDIV	Qualifier	S	T	R	ID	'N	'W
MOD	82355			SW NE NW	33	27	1E	8	3990	3810

Well E-6 of the Gilbert and Mosley site, Term 20009098

17. Rate and Quantity MOD QTY

Authorized		Additional		Overlap PD Files
Rate gpm	Quantity af	Rate gpm	Quantity af	
150	185	150	0	NONE

18. Storage: Rate _____ NF Quantity _____ ac/ft Additional Rate _____ NF Additional Quantity _____ ac/ft

19. Limitation: 185 af/yr at _____ gpm (_____ cfs) when combined with file number(s) **48,855; 48,856; 48,858; 48,859-A; 48,861; 48,862; 48,863; 48,864; and 48,865**

Limitation: _____ af/yr at _____ gpm (_____ cfs) when combined with file number(s)

20. Meter Required? Yes No To be installed by **12/31/2018** Date Acceptable Meter Installed _____

21. Place of Use

MOD	DEL	ENT	PUSE	S	T	R	ID	NE¼				NW¼				SW¼				SE¼				Total	Owner	Chg? YES	Overlap Files
								NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼				
ENT	68435			5	28	1E			0.2	9.8	5.8							1.8	20.5	9.7	5.4	53.2 74	7a.	YES	*see below		
ENT	68436			5	28	1E			1.2 8.7	L-3 9.7								L-5 11.1				20.8					
DEL	65290, 65291																					74 Total					
DEL	65292, 65293																										

Comments: *FILE NOS. 48,855; 48,856; 48,858; 48,859-A; 48,861; 48,862; 48,863; 48,864; 48,865; and ~~48,866~~, WILL ALL OVERLAP IN PLACE OF USE, WHICH IS IRR USE AT OJ WATSON PARK. SPIRIT AERO SYSTEMS IS NO LONGER A PLACE OF USE FOR THESE FILES.

KANSAS DEPARTMENT OF AGRICULTURE
Division of Water Resources

M E M O R A N D U M

TO: Files

DATE: June 7, 2017

FROM: Doug Schemm

RE: File Nos. 48,855; 48,856; 48,858; 48,859-A;
48,861; 48,862; 48,863; 48,864; 48,865; and 48,866

The City of Wichita had originally filed the above referenced applications proposing to appropriate groundwater for industrial use from existing remediation (extraction) wells. The wells are currently authorized under Term Permit, File No. 20009098, which is a contamination remediation project known as the Gilbert and Mosley site. Term Permit, File No. 20009098 (Geo-Center of Site) is authorized a total quantity of 1,863 acre-feet, and a total rate of diversion of 1,155 gpm from 13 extraction wells. The contaminated water is currently treated at the City's WATER Center and then discharged into the Arkansas River. The purpose of the new applications was initially to pipe this treated water to the Spirit AeroSystems facility, providing them with an alternate source of water in the event their water supply from the city is curtailed due to drought conditions. It appears that the contamination remediation project has been successful, and three of the wells have been turned off as groundwater quality has improved to an acceptable level. The wells are **not** located within the boundaries of Equus Beds Groundwater Management District No. 2.

However, the initial end user, Spirit AeroSystems is going to be supplied with effluent water from Wastewater Treatment Plant 2. Therefore, the proposed project has been modified from industrial use to irrigation use, with the place of use being the OJ Watson Park. The applicant is proposing to irrigate the recreational areas at OJ Watson Park, which is highly sandy soil with high pedestrian traffic. The system is to be designed at approximately 200 gallons per minute, with the desire to re-establish and maintain a quality recreation area.

Please note that the applicant has filed a total of 13 applications, ten of the applications, File Nos. 48,855, 48,856, 48,858, 48,859-A, 48,861, 48,862, 48,863, 48,864, 48,865 and 48,866 will be modified for irrigation use at the park. Application, File Nos. 48,857; 48,859; and 48,860 will remain pending for potential other uses. The referenced applications are designed to obtain permanent water rights for irrigation use at the park, after the completion of remediation activities when the term permit is no longer necessary. Obviously this presents an issue relative to perfection of these files, because the water being diverted in the future (out to 2060 potentially) will be under the authority of the term permit for contamination remediation. Per K.A.R. 5-8-6 (c) If the applicant demonstrates to the chief engineer that a longer perfection period is necessary to justify purchase or construction of infrastructure related to the diversion, treatment, or distribution of water that actually is being built, the original time to perfect a water right for municipal use or other public entity, including a utility, may be extended for a period not to exceed a total time to perfect of 40 years. The maximum quantity of water and rate of diversion perfected would be based on actual usage under these files at some point in the future. This is reflective of the unique nature of this proposed project and the desire to establish permanent water rights in the future.

The applicant has provided additional information related to the proposed irrigation use as follows:

"O.J. Watson Park is one of the largest parks in the City of Wichita park system and the 119 acre site offers a rustic setting which includes a 40-acre lake for fishing, a miniature train ride, pony rides, miniature golf, and volleyball courts. In order to promote a greater awareness of the park by making it an attractive and known destination park, staff has identified the need for additional irrigation to make the park more visually appealing to local and regional visitors so that it can continue to be one of the signature parks in the system."

City of Wichita

Application, File Nos. 48,855; 48,856; 48,858; 48,859-A; 48,861; 48,862; 48,863; 48,864;
48,865; and 48,866

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Due to the nature of the soil at OJ Watson Park, loamy sand, and its water holding capacity of 1.10-1.20 inches per foot of soil, the necessary amount of water allocated to will need to be increased than what would normally be allotted. Due to the low-quality of the existing soil at Watson Park, the Department is looking to increase the standard amount of the water right to 2.5 acre feet/per acre irrigated. Water will be managed using Cal-sense water management system, which will be operate using a Bermuda grass coefficient and a ceramic plate evapotranspiration gauge. The irrigation system will be designed by an Irrigation Association Certified Irrigation Designer. From May to September turf grass needs approximately 1" of water per week during this time period, 21 weeks, when planted on a higher quality soil."

The proposed place of use covers 74 acres. With 2.5 acre-feet per acre for turf grass (which is consistent with other turf projects), this would calculate out to be 185 acre-feet. Based on this requested quantity of water, the senior file will be processed for the requested quantity of 161.3 acre-feet, with no limitation on quantity of water. Each subsequent application will be reduced to an authorized quantity of water of 185 acre-feet (where necessary), and each will be limited so as not to exceed 185 acre-feet on the place of use. The pending applications are requesting diversion rates of either 100 gpm or 150 gpm for a total combined diversion rate of 1,500 gpm. However, the wells have proven difficult to keep operating, and only a portion of them may operate at different times in the future. The reason for the number of wells is to provide flexibility in operation.

Well logs provided with the application consistently show several feet of clay at the surface, underlain by a gravelly sand to medium gravel zone extending from approximately 5 feet below ground surface to a depth of 35 feet, terminating on shale bedrock. Groundwater is only two to three feet below the surface of the ground. The source of water is the Arkansas River alluvium, which appears to extend throughout the local area. Therefore, per K.A.R. 5-3-11 the area of consideration would be 8,042 acres, with 5.4 inches of recharge, and 75% available, safe yield is 2,714.2 acre-feet. The applications all result in the same safe yield quantity, and they all comply with safe yield criteria. Please note as discussed above, only the most senior file is all additional water, with each subsequent file being limited in quantity.

The applicant provided a list of nearby well owners and plotted known wells on the enclosed aerial photos. As discussed above, these are all existing wells that have been operated for many years (since 2002), at similar rates and quantities requested in the pending applications. Nearby well owners would certainly be aware of the well locations and there have been no reported impairment concerns. There will be no physical changes in well operation or location, merely a change in how the treated water is to be utilized. The applications comply with K.A.R. 5-3-4 for a complete application by providing the location of all other water wells of every kind within one-half mile of each well covered by the proposed appropriation, each of which was identified by its use and the name and mailing address of the owner. Therefore, because these wells have been in place and operating since 2002, there will be no physical change in operation or location of the wells, and the nearby well owners are aware of the existing wells, no nearby well owner letters will be required.

According to information in the applications and the WRIS database, all of the pending applications comply with the minimum well spacing to all existing wells. Per the requirements in K.A.R. 5-4-4 for all other aquifers, the minimum well spacing should be one-quarter mile to all other non-domestic wells and 660 feet to domestic wells. However, two of the applications (File Nos. 48,862 and 48,864) do not comply with well spacing criteria to senior applications for this same project, located 845 feet and 720 feet away from the senior file, respectively. However, K.A.R. 5-4-4 also provides that the spacing guidelines are not applicable if the required minimum well spacing criteria are not necessary to prevent direct impairment.

City of Wichita

Application, File Nos. 48,855; 48,856; 48,858; 48,859-A; 48,861; 48,862; 48,863; 48,864;
48,865; and 48,866

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There are several unique circumstances that should be considered in this specific instance regarding minimum well spacing.

- The wells in a well field such as this project are operated as a system, and are not likely to be separated or divided in any way in the future.
- The wells have historically been operated without evidence of impairing each other.
- The wells are requesting relatively low pumping rates (none exceed 150 gpm).
- The wells are producing from a very shallow, sand and gravel aquifer, with very shallow depths to groundwater, generally located less than a mile from the Arkansas River, and well spacing criteria are not as relevant in these types of aquifers because potential drawdown concerns (i.e. cones of depression) would be limited.

Therefore, per K.A.R. 5-4-4, the required minimum well spacing criteria is not necessary to prevent direct impairment in this specific instance, and the proposed well spacing is sufficient to prevent direct impairment and to protect the public interest. As noted, the wells meet minimum well spacing criteria to all other wells.

In accordance with K.S.A. 82a-706c, the Chief Engineer retains full authority to require any water user to install meters, gages, or other measuring devices, which devices he or she or his or her agents may read at any time. Water flowmeter requirements are further described in K.A.R. 5-1-4 through K.A.R 5-1-12.

In an e-mail message, dated June 5, 2017, Jeff Lanterman, Water Commissioner of the Stafford Field Office, indicated he had no objection to the approval of the referenced applications.

Based on the above discussion, the area is open to new appropriations, the groundwater applications meet safe yield and well spacing criteria, it is recommended that the referenced applications be approved, with the requested modifications in place of use and use made of water.

Doug Schemm
Environmental Scientist
Topeka Field Office

Schemm, Doug

From: Philip, Charlotte
Sent: Monday, June 5, 2017 10:52 AM
To: Lanterman, Jeff; Schemm, Doug
Cc: Conant, Cameron
Subject: RE: Water Rights Inquiry

Agree with Jeff. I'm OK with it.

Charlotte Philip

From: Lanterman, Jeff
Sent: Monday, June 05, 2017 10:49 AM
To: Schemm, Doug <Doug.Schemm@ks.gov>; Philip, Charlotte <Charlotte.Philip@ks.gov>
Cc: Conant, Cameron <Cameron.Conant@ks.gov>
Subject: RE: Water Rights Inquiry

Doug;

This sounds like a good use of this water. Rather than just flushing it down the Ark. I need to look to these to the future though and for that I guess safe yield is what we have. And they meet safe yield.

I looked at the only well nearby that is anywhere close and water levels are steady. Measured by the venerable Mike Dealy with KGS.
http://hercules.kgs.ku.edu/geohydro/wizard/wizardwelldetail.cfm?usgs_id=374228097214301

These wells have been in operation for awhile now to remediate Wichita without causing any impairment of the domestic wells nearby that the field office is aware of. So I concur with your discussion on spacing.

The only heartburn I have is allowing an irrigation permit to have a 20-40 year perfection period. But I understand the infrastructure costs and concerns here. I'm not sure about the need for that long of a period after the infrastructure is built?

Just so we don't have a perfected water right hanging out there I would be ok with going ahead and giving them 20 years with a waiver BUT a 5 year review period (or every 5 years after the infrastructure construction is completed? I guess they will notify us they have that done with the N&P correct?) to see if they got them perfected. We could issue the certificates sooner if they use the water after the infrastructure is built to its full extent. Just throwing out a thought there? How about if they report to us every 5 years after the infrastructure is built with a report on the extent of the perfection of these water rights?

I think they will perfect these pretty quickly once they have the ability to actually run the water to the park. It would be good to get them certified before they become old.

I copied Charlotte to see if she has concerns about the certs system. I can see this being really hard to certify eventually.

But I recommend it be approved if she doesn't have a problem with it.

Jeff

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

July 5, 2017

FILE COPY

CITY OF WICHITA
PARK AND RECREATION DEPARTMENT
% MATT TOWNSEND
455 N MAIN 11TH FLOOR
WICHITA KS 67202

RE: Appropriation of Water, File Nos. 48,855; 48,856; 48,858; 48,859-A; 48,861; 48,862;
48,863; 48,864; 48,865; and 48,866

Dear Mr. Townsend:

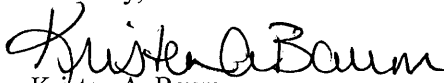
There are enclosed permits to appropriate water authorizing you to proceed with construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a), to divert such unappropriated water as may be available from the source and at the locations specified in these permits, and to use it for the purpose and at the location described in these permits.

Your attention is directed to the enclosures and to the terms, conditions, and limitations specified in these permits, with specific reference to your **quantity of water limitation of 185 acre-feet** with all files combined on the place of use, and reporting requirements. Water meters are required and you must install them prior to water being put to beneficial use in order for you to maintain accurate records of water use. The meters should be used to provide the information required on the annual water use reports.

Failure to notify the Chief Engineer of the Division of Water Resources of the completion of the diversion works within the time allowed, or within any authorized extension of time thereof, will result in the dismissal of these permits. Enclosed are forms which may be used to notify the Chief Engineer that the proposed diversion works have been completed for each file.

All requests for extensions of time to complete diversion works, or to perfect appropriations, must be submitted to the Chief Engineer before the expiration of time originally set forth in these permits to complete diversion works or to perfect an appropriation. If for any reason, you require an extension of time, you must request it before the expiration of time set forth in these permits. Failure to comply with this regulation will result in the dismissal of your permits or your water rights. Any request for an extension of time shall be accompanied by the required statutory fee, which is currently \$100.00 per file number. There is also enclosed an information sheet setting forth the procedure to obtain Certificates of Appropriation which will establish the extent of your water rights. If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,


Kristen A. Baum
New Application Unit Supervisor
Water Appropriation Program

KAB:dws

Enclosures

pc: Stafford Field Office

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Jackie McClaskey, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

**APPROVAL OF APPLICATION
and
PERMIT TO PROCEED**

(This Is Not a Certificate of Appropriation)

FILE COPY

This is to certify that I have examined Application, **File No. 48,866** of the applicant

**CITY OF WICHITA
PARK & RECREATION DEPARTMENT
455 N MAIN ST 11TH FLOOR
WICHITA KS 67202**

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 **November 6, 2013**.

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	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
5	28	1E		0.2	9.8	5.8									1.8	20.5	9.7	5.4	53.2
5	28	1E			L-3 9.7										L-5 11.1				20.8

3. That the authorized source from which the appropriation shall be made is groundwater, to be withdrawn by means of one (1) well located in the Southwest Quarter of the Northeast Quarter of the Northwest Quarter (SW¼ NE¼ NW¼) of Section 33, more particularly described as being near a point 3,990 feet North and 3,810 feet West of the Southeast corner of said section, in Township 27 South, Range 1 East, Sedgwick 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 **150 gallons per minute (0.33 c.f.s.)** and to a quantity not to exceed **185 acre-feet** of water for any calendar year.

5. That installation of works for diversion of water shall be completed on or before **December 31, 2018** 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.

6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2037** 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 an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with the Kansas Administrative Regulations 5-1-4 through 5-1-12 adopted by the Chief Engineer. This 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).

13. 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.

14. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.

15. 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.

16. 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.

17. 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.

18. That the permittee shall submit an initial report within five (5) years after construction of the diversion works have been completed. This report must provide documentation of any actual application of water for irrigation use, to determine the extent that this water right may have been perfected. Subsequent perfection reports should be provided at five (5) year intervals.

19. That the permittee shall submit a progress report to the office of the Chief Engineer prior to **December 31, 2037**. This report shall document the status of the contamination remediation project and provide projections on the when the project may reach completion. The progress report must contain sufficient details to determine if an extension of time for perfection of the water right is warranted.

20. That the quantity of water approved under this permit is further limited to the quantity which combined with Appropriation of Water, File Nos. 48,855; 48,856; 48,858; 48,859-A; 48,861; 48,862; 48,863; 48,864; and 48,865, will provide a total **not to exceed 185.0 acre-feet** of water per calendar year for irrigation use on the land described herein.

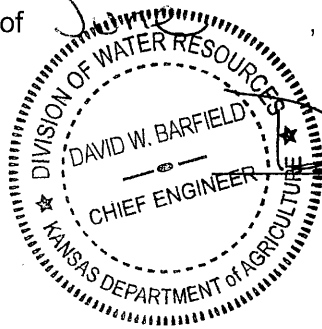
This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

Ordered this 29th day of June, 2017, in Topeka, Shawnee County, Kansas.



David W. Barfield

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

State of Kansas)
County of Riley) SS

The foregoing instrument was acknowledged before me this 29th day of June, 2017, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.



Karen Hunter

Notary Public

CERTIFICATE OF SERVICE

On this 5th day of July, 2017, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 48,866, dated June 29, 2017 was mailed postage prepaid, first class, US mail to the following:

CITY OF WICHITA
PARK AND RECREATION DEPARTMENT
% MATT TOWNSEND
455 N MAIN ST 11TH FLOOR
WICHITA KS 67202

With photocopies to:
Stafford Field Office

Danielle Wilson

Division of Water Resources

APPLICATION COMPLETE

3/3/2017

Reviewer DWS

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Dale A. Rodman, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

File Number 48866

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

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.)

WATER RESOURCES RECEIVED
NOV 06 2013
11:35 AM
KS DEPT OF AGRICULTURE

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture,
109 SW 9th Street, Second Floor, Topeka, KS 66612-1283:

1. Name of Applicant (Please Print): City of Wichita - ^{Park and Recreation Department} ~~Public Works + Utilities~~
Address: 455 N Main - ~~8th Floor~~ 11th Floor
City: Wichita State KS Zip Code 67202
Telephone Number: (316) 268-4235 4665

2. The source of water is: surface water in _____ (stream)
OR groundwater in Arkansas 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.

3. The maximum quantity of water desired is 242 ^{185**} acre-feet OR _____ gallons per calendar year, to be diverted at a maximum rate of 150 gallons per minute OR _____ cubic feet per second.

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

4. The water is intended to be appropriated for (Check use intended): * Modified use to IRR by Parks Dept. at O.S. Watson Park. DWS/DWR 6/5/17
(a) Artificial Recharge (b) Irrigation* (c) Recreational (d) Water Power
(e) Industrial (f) Municipal (g) Stockwatering (h) Sediment Control
(i) Domestic (j) Dewatering (k) Hydraulic Dredging (l) Fire Protection
(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.

For Office Use Only:
F.O. 2 GMD 0 Meets K.A.R. 5-3-1 (YES/NO) Use IND Source G/S County SG By RAH Date 11-6-13
Code RE2 Fee \$ 300 TR # 1401177 Receipt Date 11-6-13 Check # 000590585

DWR 1-100 (Revised 02/04/2013)

11/7/2013 LLM

** Reduced Quantity to MAXimum Reasonable for Irrigation Use. DWS/DWR 6/5/17

000000

* Per feet Distances + Site Map . DWS/DWR
6/5/17

File No. 48,866

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

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

- (A) One in the ~~NE~~ ^{SW*} quarter of the ~~SE~~ ^{NE*} quarter of the NW quarter of Section 33, more particularly described as being near a point 3990 feet North and 390 feet West of the Southeast corner of said section, in Township 27 South, Range 1 East/West (circle one), Sedgewick County, Kansas.
- (B) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.
- (C) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.
- (D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

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

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

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

_____ (name, address and telephone number)

_____ (name, address and telephone number)

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

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

Executed on October 21st, 20 13 Duke Day
Applicant's Signature

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

7. The proposed project for diversion of water will consist of One (1) Well
(number of wells, pumps or dams, etc.)
and (was)(will be) completed (by) 9/18/2001
(Month/Day/Year - each was or will be completed)

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

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

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

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

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

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

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

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

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

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

Gilbert Masley 20009090
PU 01 - 48,855, 48,856, 48,858, 48,859-A, 48,861
48,862, 48,863, 48,864, 48,865, & 48,866

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

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

Well location as shown in paragraph No.	(A)	(B)	(C)	(D)
Date Drilled	<u>9/18/2001</u>	_____	_____	_____
Total depth of well	<u>32'</u>	_____	_____	_____
Depth to water bearing formation	<u>7'</u>	_____	_____	_____
Depth to static water level	_____	_____	_____	_____
Depth to bottom of pump intake pipe	_____	_____	_____	_____

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

Agent Owner
(owner, tenant, agent or otherwise)

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

~~Sprint AeroSystems - 3365 S. Oliver, Wichita - KS 67210~~ Parks Dept.
(name, address and telephone number)

~~Correspondent Mark Arnold - Senior Manager - Building Maint 316-526-4379~~
(name, address and telephone number)

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

Dated at Wichita, Kansas, this 21st day of October, 2013.
(month) (year)

(Applicant Signature)

APPLICANT(S) SOCIAL SECURITY IDENTIFICATION NUMBER(S)

By Dale S. G
(Agent or Officer Signature)

48-6000653
and/or
APPLICANT(S) TAXPAYER I.D. NO.(S)

Dale E. Arty
(Agent or Officer - Please Print)

Assisted by _____ Date: _____
(office/title)

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KS DEPT OF AGRICULTURE

IRRIGATION USE SUPPLEMENTAL SHEET

File No. 48,866

Name of Applicant (Please Print): CITY OF WICHITA – PARK & RECREATION DEPT.

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

Landowner of Record NAME: CITY OF WICHITA – PARK & RECREATION DEPARTMENT
455 N MAIN ST, 11TH FLOOR WICHITA, KS 67202

S	T	R	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5	28S	1E		6.5	17.0	4.0	1.0			1.5					11.5	23.0	10.5	5.0	74
				0.2	9.8	5.8									1.8	20.5	9.7	5.4	
				4.3	9.7										4.5	11.1			

KAB/DWR
6-27-17

Landowner of Record NAME: _____

ADDRESS: _____

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

Landowner of Record NAME: _____

ADDRESS: _____

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

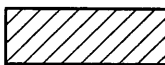
CITY OF WICHITA - O J WATSON PARK IRR
PLACE OF USE MAP
Section 5, Township 28 South, Range 1 East
Sedgwick County

48,866



Southeast Corner of Section 5
Township 28 South
Range 1 East

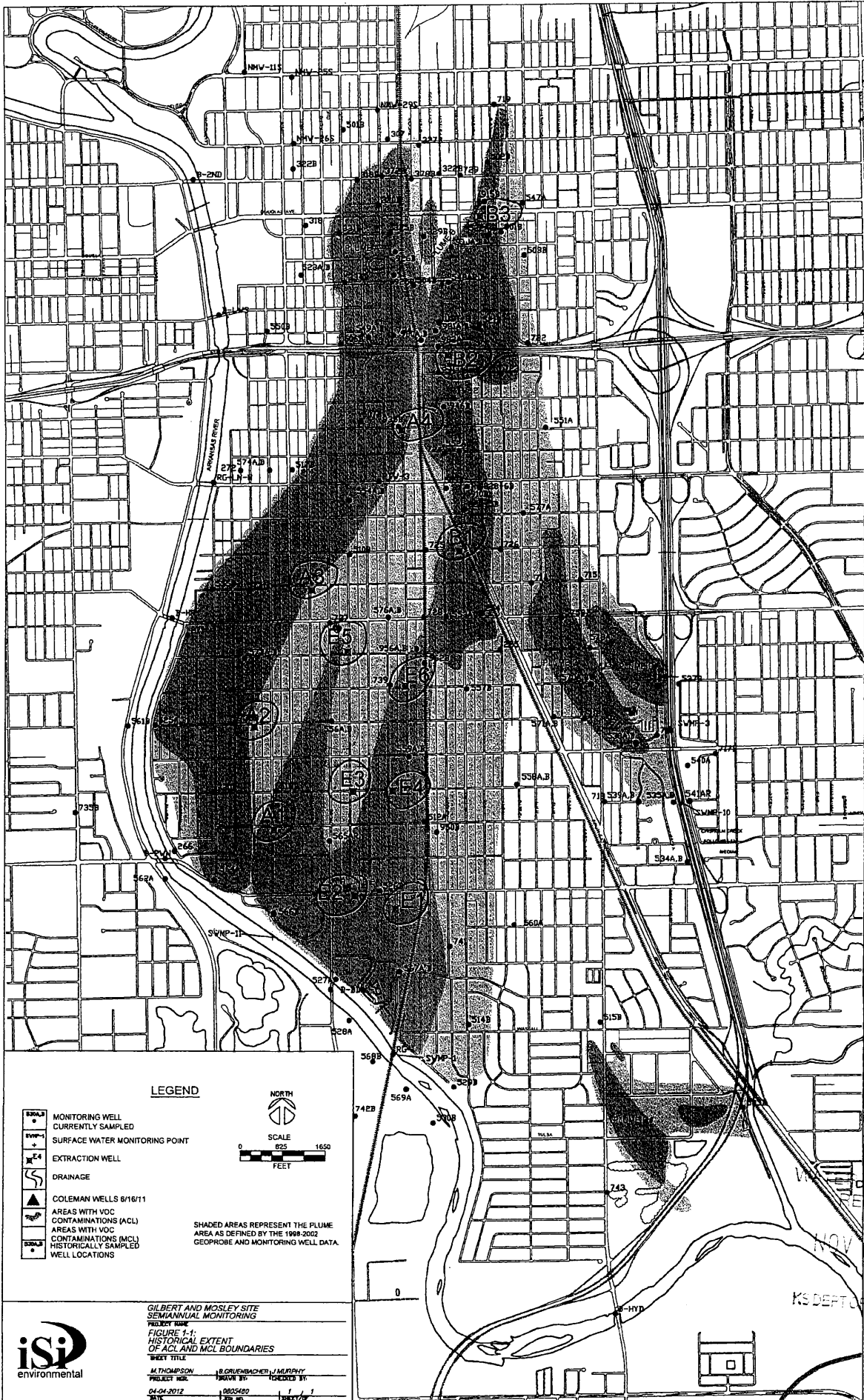
Copyright © 2013 National Geographic Society | i-cubed



Proposed Place of Use

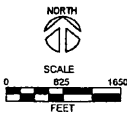
1:12,000





LEGEND

- MONITORING WELL
- CURRENTLY SAMPLED
- SURFACE WATER MONITORING POINT
- EXTRACTION WELL
- DRAINAGE
- COLEMAN WELLS 8/16/11
- AREAS WITH VOC CONTAMINATIONS (ACL)
- AREAS WITH VOC CONTAMINATIONS (MCL)
- HISTORICALLY SAMPLED WELL LOCATIONS



SHADED AREAS REPRESENT THE PLUME AREA AS DEFINED BY THE 1998-2002 GEOPROBE AND MONITORING WELL DATA.

GILBERT AND MOSLEY SITE SEMIANNUAL MONITORING

FIGURE 1-1:
HISTORICAL EXTENT
OF ACL AND MCL BOUNDARIES

PROJECT NO. 18005490
DATE 04-04-2012
BY [signature]



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KS DEPT. OF AGRICULTURE

Schemm, Doug

From: Townsend, Matt <MTownsend@wichita.gov>
Sent: Monday, June 5, 2017 11:07 AM
To: Schemm, Doug
Cc: Ary, Debra; Houtman, Troy
Subject: Re: Water Rights Inquiry

Doug,

That is great news! Thank you very much for the update, we really appreciate all of the work you all have done on this.

Matt

From: Schemm, Doug <Doug.Schemm@ks.gov>
Sent: Monday, June 5, 2017 11:03 AM
To: Townsend, Matt
Cc: Ary, Debra
Subject: RE: Water Rights Inquiry

Good Morning Matt,
I just got the ok on these from the Stafford Water Commissioner. So now I just have to finish up the paperwork and get them to HQ in Manhattan for final review and signature. They have to be signed by the Chief Engineer, so it is going to take a few weeks to get them through the system, but we are making progress.
Have a great day,
Doug

From: Townsend, Matt [mailto:MTownsend@wichita.gov]
Sent: Friday, May 26, 2017 9:35 AM
To: Schemm, Doug <Doug.Schemm@ks.gov>
Cc: Ary, Debra <DAry@wichita.gov>
Subject: Water Rights Inquiry

Good Morning Doug,

I wanted to know the status of our application for a change of water right for the remediation wells that feed into the Gilbert Mosley facility that we want to use for irrigation for O.J. Watson Park.

Matt Townsend
City of Wichita, Park and Recreation Department
455 N Main, 11th Floor
Wichita, KS 67202
T: 316.268.4665

← OWNER

Mission-
Wichita Park and Recreation provides high-quality life experiences to the Wichita community through the enhancement of world-class amenities and activities.

Vision-
To excel at what we do for the benefit of our community and generations to come.

Schemm, Doug

From: Ary, Debra <DAry@wichita.gov>
Sent: Friday, March 3, 2017 10:49 AM
To: Schemm, Doug
Subject: RE: City of Wichita - Gilbert Mosley - Watson Park

Good morning Doug,

Do you have time for a call today or early next week? I would like to provide you with whatever I can to get these water rights moving again and I think there were two issues in the last phone conversation we had that needed to be addressed. The issues were safe yield and the operation of the existing term permits.

I had thought that the safe yield of the wells we would like to use for Watson was okay as long as we operated them under the 185 AF limitation. Is the original file submittal inclusion of 48,860 still impacting the overall quantity and safe yield calculations? If so, I would be happy to ask that that application be dismissed (even though the thermal right SG 71 is no longer accessible).

As for the reporting conflict between the term permits and the requested rights, could the use of the irrigation rights be tied to the term permit reports as long as the mitigation need for that particular well exists? When the mitigation need is officially cleared, the term right would be dismissed/inactivated and the well would become a standalone irrigation right.

Thank you, have a wonderful rest of the day and weekend,

Deb

Debra Ary, PE
Wichita Public Works & Utilities
Utilities Engineer
316-268-4614

From: Schemm, Doug [mailto:Doug.Schemm@ks.gov]
Sent: Thursday, November 17, 2016 10:39 AM
To: Ary, Debra <DAry@wichita.gov>
Subject: RE: City of Wichita - Gilbert Mosley - Watson Park

Good Morning Deb,

So we have justification for the 2.5 AF/acre. I came up with a 74 acre place of use, which would calculate out to a total of 185 acre-feet. We could modify File No. 48,855 that is requesting 161.3 AF, and 48,856 which is also requesting 161.3 AF. File No. 48,858 would have to be reduced to 185 acre-feet, etc. Of course all of the junior files would have to be limited to 185 AF when combined with File No. 48,855. This gives you flexibility of using several different wells as your source of supply.

Schemm, Doug

From: Ary, Debra <DAry@wichita.gov>
Sent: Tuesday, November 15, 2016 1:40 PM
To: Schemm, Doug
Subject: RE: City of Wichita - Gilbert Mosley - Watson Park
Attachments: Place of Use.pdf; K-State Soil Analysis - Watson Park.pdf

Good afternoon Doug, and happy Tuesday.

Below is what the Park Department came up with. If it is in line with what you need, do I need to send it in as a hard copy? Also attached is the soil analysis that they requested from K-State.

O.J. Watson Park is one of the largest parks in the City of Wichita park system and the 119 acre site offers a rustic setting which includes a 40-acre lake for fishing, a miniature train ride, pony rides, miniature golf, and volleyball courts. In order to promote a greater awareness of the park by making it an attractive and known destination park, staff has identified the need for additional irrigation to make the park more visually appealing to local and regional visitors so that it can continue to be one of the signature parks in the system.

Due to the nature of the soil at OJ Watson Park, loamy sand, and its water holding capacity of 1.10-1.20 inches per foot of soil, the necessary amount of water allocated to will need to be increased than what would normally be allotted. Due to the low-quality of the existing soil at Watson Park, the Department is looking to increase the standard amount of the water right to 2.5 acre feet/per acre irrigated. Water will be managed using Cal-sense water management system, which will be operate using a Bermuda grass coefficient and a ceramic plate evapotranspiration gauge. The irrigation system will be designed by an Irrigation Association Certified Irrigation Designer. From May to September turf grass needs approximately 1" of water per week during this time period, 21 weeks, when planted on a higher quality soil.

I am still working on a layout of the planned route. They have provided the faded yellow line crossing the river on the attachment named "Place of Use" and I am trying to get a schematic of the piping from the Water Center to the outfall structure for a better feel of the system as a whole.

Please let me know what my next steps are, and have a wonderful rest of the week!

Deb

Debra Ary, PE
Wichita Public Works & Utilities
Utilities Engineer
316-268-4614

From:
Sent: Tuesday, November 08, 2016 9:06 AM
To: Ary, Debra <DAry@wichita.gov>
Subject: RE: City of Wichita - Gilbert Mosley - Watson Park

Hello Deb,

It doesn't have to be anything elaborate. They can just state something like "The requested quantity of water exceeds the maximum quantity of 1.3 acre-feet per acre for irrigation purposes in Sedgwick County. However, per K.A.R. 5-3-20 the additional water is necessary based on the type of turf grass (Bermuda Grass) and anticipated water needs for this specialty crop. Information from Kansas State University Extension Service, shows that the additional water is necessary for proper turf management, both to get any new grass established and to prevent the existing grass from being damaged during high traffic, public recreational use of the park grounds. The proposed type of grass is similar to golf courses, which typically require additional water for similar reasons". They can also point out that the soil has a high sand content, with a corresponding high permeability rate, requiring additional water to maintain the grass especially during dry and hot conditions.

If they have some supporting information like anticipated watering schedule that would be great. Something like "One inch of water per acre per week, will be applied during the spring growing season from April through June, and then as needed during the drier summer months". etc.

Please don't go to a lot of trouble. If we need additional quantity justification as we work through this, then I will certainly let you know.

Have a great day,
Doug

From: Ary, Debra [<mailto:DAry@wichita.gov>]
Sent: Tuesday, November 08, 2016 8:23 AM
To: Schemm, Doug
Subject: RE: City of Wichita - Gilbert Mosley - Watson Park

Good morning Doug,

Our Park department is struggling a bit on the format of what the justification for additional AF/acre should look like. Do you by any chance have an example of what you are looking for that I can share with them?

Thank you, and have a wonderful day.

Deb

From: Ary, Debra
Sent: Thursday, October 13, 2016 12:48 PM
To: 'Schemm, Doug' <Doug.Schemm@ks.gov>
Subject: RE: City of Wichita - Gilbert Mosley - Watson Park

Good morning Doug,

Thank you for putting this together and providing the link. I have forwarded it on to the Parks group to peruse and provide the supporting thoughts.

Have a great afternoon!

Deb

K-STATE

Research and Extension

KSU Soil Testing Laboratory
 2308 Throckmorton Plant Sciences Center
 1712 Claflin Road
 Manhattan, KS 66506-5503

Knowledge
for Life

Tel: 785-532-7897 Fax: 785-532-7412
 www.agronomy.ksu.edu/soiltesting

Soil Test Report

Sample Information:

Sample ID: Watson Park Lawn

Prepared For:

Matthew McKernan
 Sedgwick County Extension
 7001 W. 21st Street N
 Wichita, KS 67205

Send Copy To:

Tom Nordick
 1245 S. Mclean Blvd
 Wichita, KS 67203

Order Number: 5277

Lab Number: 002827

Received: 10/27/2016

Reported: 11/2/2016

County: Sedgwick

(Where sample was taken)

dbindrum@ksu.edu; mckernan@ksu.edu
 316-660-0100

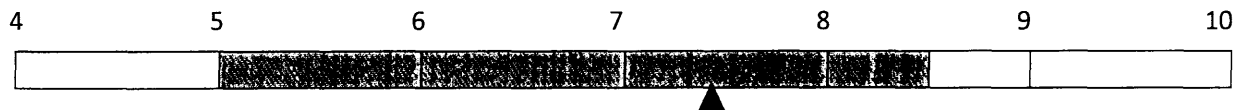
Tnordick@wichita.gov
 316-350-3173

Results

Soil pH (1:1, soil:water)	7.4	Organic Matter (LOI), %	1.5 %
Nitrate (NO3) surface or 1st sample	3 ppm	Phosphorus (P) Mehlich-3	43 ppm
Potassium (K)	144 ppm	Texture - Soil Type	loamy sand
Sand	80 %	Silt	14 %
Clay	6 %		

Tall Fescue

Soil pH
 (Shaded area is acceptable pH range for tall fescue)



Shaded area below represents the level of nutrients in the area tested.

Organic Matter

< 2% (Low)	2.0 – 2.9 % (Good)	3.0 – 3.9% (Very Good)	> 4 % (Excellent)
------------	--------------------	------------------------	-------------------

Phosphorous

0-5 (Very Low)	6-10 (Low)	11-20 (Medium)	21-50 (High)	>50 (Very High)
----------------	------------	----------------	--------------	-----------------

Potassium

0-40 (Very Low)	41-175 (Low)	176-250 (Medium)	251-300 (High)	>300 (Very High)
-----------------	--------------	------------------	----------------	------------------

Organic Matter

< 2% (Low)	2.0 – 2.9 % (Good)	3.0 – 3.9% (Very Good)	> 4 % (Excellent)
------------	--------------------	------------------------	-------------------

Recommendations

pH: The pH is higher than normal but OK for tall fescue. If you have any other species of turf or are going to plant

trees or shrubs, the pH should be dropped by adding 15 pounds of sulfur per 1000 square feet to bring the soil to an optimum pH. The total amount of sulfur can be added to the area before planting if it is incorporated into the soil to a depth of 6 inches. However for existing lawns, only 5 pounds of sulfur per 1000 square feet should be added at one time to established turf. Sulfur can be added each March and September until the total amount has been applied. For sulfur applications to be most effective, core aerate your lawn before applying sulfur. This allows the sulfur to enter deeper into the soil profile, and more quickly benefit the plant. Pelletized sulfur is easier to work with than the dust.

Fertilizer: Your soil is high in phosphorus and low in potassium. Phosphorus and potassium are usually applied in the September application. You have adequate levels of phosphorus, and do not need to add more. The nitrogen level in your soil is **low**. Nitrogen is regularly used up by plants, and naturally leaches from the soil profile and becomes unavailable.

Use a fertilizer that contains no phosphorus but significant levels of potassium such as one of the following.

A 4-0-10 fertilizer at the rate of 20 pounds per 1000 square feet.

A 15-0-15 fertilizer at the rate of 7 pounds per 1000 square feet.

OR you may use a high nitrogen fertilizer such as those described below under “November Application” plus Muriate of Potash (0-0-60) at the rate of 3 pounds per 1000 square feet.

Phosphorus and potassium tend to bind on the surface layer of the soil where roots may have difficulty absorbing them. It will help if the fertilizer is applied in September immediately after the lawn is core aerated. This will allow the nutrients to penetrate more deeply into the soil where roots are more likely to take them up.

Tall fescue is normally fertilized two or three times each year. The most important fertilizations are done in September and again in November. For a high quality turf that will be watered during the summer, also fertilize in May. If nitrogen is only applied once per year, fertilize in September for best results.

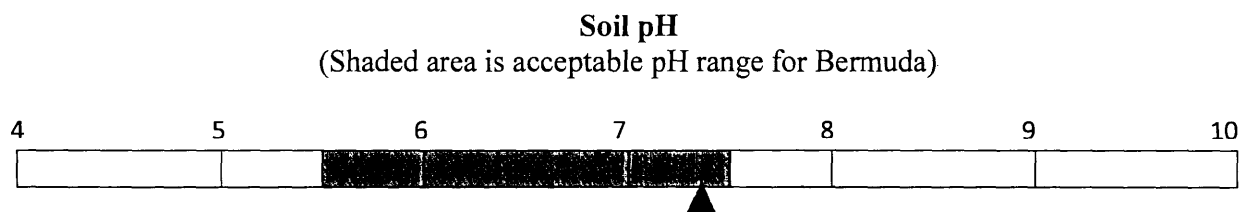
September Application: You will need to core aerate and apply the 4-0-10 fertilizer for two Septembers in a row **or** the 15-0-15 fertilizer for three Septembers in a row. Every September after that use a high nitrogen fertilizer at the rate of 1 pound of nitrogen per 1000 square feet. Or you may use a high nitrogen lawn fertilizer such as a 27-3-3, 29-3-4, 30-3-3 or something similar at the rate suggested on the bag. Continue to core aerate each September to relieve compaction and increase soil aeration.

November Application: Use a high nitrogen fertilizer for the November application as well. Also apply the November application at 1 pound of nitrogen per 1000 square feet or use a high nitrogen lawn fertilizer such as a 27-3-3, 29-3-4, 30-3-3 or something similar at the rate suggested on the bag. Fertilizer should be watered in.

May Application: If you decide to use a May fertilization, apply a **slow-release** lawn fertilizer at the rate suggested on the bag.

Organic Matter: The organic matter of your soil sample is low, mulching mower clippings into the lawn will help increase the organic matter in your soil over time. Another option to increase soil organic matter is to incorporate 1-3 inches of compost six inches deep into the existing soil before planting. You can also spread a 1 inch layer of compost over your lawn in late fall, just before the dead of winter, for existing lawns. The freezing and thawing action of the soil during the winter will help incorporate the compost into the soil, without the need for tilling.

Bermudagrass Turf



Shaded area below represents the level of nutrients in the area tested.

Organic Matter			
< 2% (Low)	2.0 – 2.9 % (Good)	3.0 – 3.9% (Very Good)	> 4 % (Excellent)

Phosphorous				
0-5 (Very Low)	6-10 (Low)	11-20 (Medium)	21-50 (High)	>50 (Very High)

Potassium				
0-40 (Very Low)	41-75 (Low)	176-250 (Medium)	251-300 (High)	>300 (Very High)

Organic Matter			
< 2% (Low)	2.0 – 2.9 % (Good)	3.0 – 3.9% (Very Good)	> 4 % (Excellent)

Recommendations

pH: The pH is higher than normal but, fine for bermudagrass. If you have any other species of turf or are going to plant trees or shrubs, the pH should be dropped by adding 15 pounds of sulfur per 1000 square feet to bring the soil to an optimum pH. The total amount of sulfur can be added to the area before planting if it is incorporated into the soil to a depth of 6 inches. However for existing lawns, only 5 pounds of sulfur per 1000 square feet should be added at one time to established turf. Sulfur can be added each March and September until the total amount has been applied. For sulfur applications to be most effective, core aerate your lawn before applying sulfur (but do not core aerate the same times of year that you apply the sulfur, as this may damage your bermudagrass). Core aeration allows the sulfur to enter deeper into the soil profile, and more quickly benefit the plant. Pelletized sulfur is easier to work with than the dust.

Fertilizer: Your soil is high in phosphorus and low in potassium. Phosphorus and potassium are usually applied in the September application. You have adequate levels of phosphorous, and do not need to add more. The nitrogen level in your soil is **low**. Nitrogen is regularly used up by plants, and naturally leaches from the soil profile and becomes unavailable.

Use a fertilizer that contains no phosphorus but significant levels of potassium such as one of the following:

- A 4-0-10 fertilizer at the rate of 20 pounds per 1000 square feet.
- A 15-0-15 fertilizer at the rate of 7 pounds per 1000 square feet.

K-STATE

Research and Extension

KSU Soil Testing Laboratory
2308 Throckmorton Plant Sciences Center
1712 Claflin Road
Manhattan, KS 66506-5503

Tel: 785-532-7897 Fax: 785-532-7412
www.agronomy.ksu.edu/soiltesting

*Knowledge
for Life*

OR you may use a high nitrogen fertilizer such as those described below under “November Application” plus Muriate of Potash (0-0-60) at the rate of 3 pounds per 1000 square feet.

Phosphorus and potassium tend to bind on the surface layer of the soil where roots may have difficulty absorbing them. It will help if the fertilizer is applied in September immediately after the lawn is core aerated. This will allow the nutrients to penetrate more deeply into the soil where roots are more likely to take them up.

Every fertilization after that, use a fertilizer that contains primarily nitrogen such as one of the following:

Iron + (12-0-0) at the rate of 8 pounds per 1000 square feet

Nitrate of Soda (16-0-0) at the rate of 7 pounds per 1000 square feet.

Ammonium sulfate (21-0-0) at the rate of 5 pounds per 1000 square feet

Urea (46-0-0) at the rate of 2½ pounds per 1000 square feet.

You can also use a 27-3-3, 28-4-4, 29-3-3 or something similar at the rate suggested on the bag. Core aerate each June to relieve compaction and increase soil aeration.

Bermuda is normally fertilized two to four times each year at the following times.

Two applications per year: May and July

Three applications per year: May, June and early August

Four applications per year: May, June, July and August

Organic Matter: The organic matter of your soil sample is low, mulching mower clippings into the lawn will help increase the organic matter in your soil over time. Another option to increase soil organic matter is to incorporate 1-3 inches of compost six inches deep into the existing soil before planting. You can also spread a 1 inch layer of compost over your lawn in late fall, just before the dead of winter, for existing lawns. The freezing and thawing action of the soil during the winter will help incorporate the compost into the soil, without the need for tilling.

Recommendations by: Matthew McKernan

K-STATE

Research and Extension

KSU Soil Testing Laboratory
2308 Throckmorton Plant Sciences Center
1712 Claflin Road
Manhattan, KS 66506-5503

Tel: 785-532-7897 Fax: 785-532-7412
www.agronomy.ksu.edu/soiltesting

*Knowledge
for Life*

General References:

For current information and order forms, please visit

<http://www.agronomy.k-state.edu/services/soiltesting/Prices%20and%20Analysis%20Request%20Forms.html>

Schemm, Doug

From: Ary, Debra <DAry@wichita.gov>
Sent: Tuesday, October 04, 2016 9:57 AM
To: Schemm, Doug
Subject: RE: Water Right modification question or two
Attachments: Watson Place of Use with Water.pdf

Good morning Doug,

Attached is the proposed place of use.

Thank you,

Deb

From: Schemm, Doug [mailto:Doug.Schemm@ks.gov]
Sent: Tuesday, October 04, 2016 7:34 AM
To: Ary, Debra <DAry@wichita.gov>
Subject: RE: Water Right modification question or two

Deb,
I'm ready to discuss this project once you get settled in this morning, and have your coffee ready!!
Please give me a call,
Thanks, Doug

From: Ary, Debra [mailto:DAry@wichita.gov]
Sent: Thursday, September 29, 2016 3:29 PM
To: Schemm, Doug
Subject: RE: Water Right modification question or two

Hi Doug,

Monday or Tuesday would be just fine. I am free between 11 and 3 on Monday and all morning on Tuesday.

Thank you!

Deb

From: Schemm, Doug [mailto:Doug.Schemm@ks.gov]
Sent: Thursday, September 29, 2016 3:04 PM
To: Ary, Debra <DAry@wichita.gov>
Subject: RE: Water Right modification question or two

Hello Deb,
Always great to hear from you. I just got into the office today and I'm not in tomorrow. Let me look this over and we can talk Monday or Tuesday of next week, if that's ok.
Doug

From: Ary, Debra [mailto:DAry@wichita.gov]
Sent: Thursday, September 29, 2016 11:41 AM
To: Schemm, Doug
Subject: Water Right modification question or two

Good morning Doug,

I hope that all is well with you and yours.

I am finally sitting down to put all the documentation together for the request to ^{Applications} ~~change~~ ^{modify} the place of use and use of for the ~~water rights~~ we had requested for Spirit Aerosystems to Watson Park. The system they plan on constructing is to irrigate the recreational areas at OJ Watson Park, so pretty sandy soil with high use. The system for today is to be designed at approximately 200 gpm and the hope of course is to be able to re-establish and maintain a quality recreation area.

The history of these water rights in a nutshell.

- Wichita has a battery of term permits for groundwater remediation, with the water directed to an air sparging facility and then released into the river. The desire has been to put this water to beneficial use rather than send to the river, but it is understood that the contaminant plumes will eventually be mitigated and the term water right will cease.
- An initial water rights application was made to obtain permanent groundwater rights at these locations to provide continued industrial water to Spirit. Spirit is now to receive water from the effluent of Wastewater Treatment Plant 2.
- The desire now is to use this water to improve OJ Watson Park which surrounds a water feature that is not dependable enough to use as an irrigation source for the park. As with Spirit, there is enough effluent to support the park's needs now, but a continued water right is desired.

The files we are considering requesting to ^{modify} ~~change~~ use of and place of use are: 48855, 48856, 48858, 48859-A, 48861, 48862, 48863, 48864, 48865 and 48866. These do add up to quite a bit more than 200 gpm, but they are also pulling less than desirable water and require a lot of maintenance to keep running at full capacity so the thought was to provide as much flexibility in the use of these wells as possible.

I do have a few questions as my memory is pretty spotty from our conversation in May even though I thought I took decent notes.

these are pending New Apps. My notes say that I need an Irrigation Use Supplemental, to request the change to irrigation and to change the point of use. I also had in my notes that there were no new application fees. This doesn't line up well with the change application fee schedule which indicates the combined fee for the changes as \$500 per right number so thought I had better double check. Is the base Change Application the correct form?

- 48865 and 48866 were not supported due to safe yield calculations. Is there a specific amount I should consider requesting to reduce from their quantity or is the projected use of the wells in a battery style more acceptable than the initially proposed 24/7 potential industrial use?
- Cleanup efforts for the plumes are projected to continue through 2060 so it is projected that it will be many years before the park actually has to start using an official water right vs. enjoying the product of the term permit. Will there be issues with a water right whose well may use more than that water

right's approved quantity while it is meeting the requirements of its term permit? Should we consider applying for conservation status for these rights while the mitigation is still active and the term permits are still in place?

- The initial application was for City of Wichita – Public Works & Utilities, the new holder will be the Parks Department. Do we simply put City of Wichita – Parks Department in the applicant line or will this cause issues in your database?

I think those are my questions for now, please let me know if any of this doesn't make sense and as always, I am open for a phone conversation if that is easiest.

Thank you and have a wonderful Thursday!

Deb

Debra Ary, PE
Wichita Public Works & Utilities
Utilities Engineer
316-268-4614

48,866 \$8,
Meets Safe Yield

Senior files are 0
additional for
IRR use.

Analysis Results

The selected PD is in an area to new appropriations.
The safe yield, based on the variables listed below is 2,714.18 AF.
Total prior appropriation in the circle is 3,351.12 AF. -242- 3109 -400 - 0 add'l seniors (1935.8) =
Total quantity of water available for appropriation is 0.00 AF.

(THX)
3109 -400 - 0 add'l seniors (1935.8) =

1940

File # 48,866 is
also 0 additional
@ try-

Safe Yield Variables

The area used for the analysis is set at 8,042 acres.
Potential annual recharge of the area is estimated to be 5.4 inches.
The percent of recharge available for appropriation is 75%.

Authorized Quantity values are as of 07-JAN-2014 and are based on Appropriated and Vested ground water right and possible stream nodes for GMD #2. Domestic, Term and Temporary water rights have been excluded.

There are 32 water right(s) and 31 point(s) of diversion within the circle.

File Number	Use	ST	SR	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Qind	Auth_Quant	Add_Quant	Tacres	Nacres	
A 7486	00	IRR	NK	G		NW	NW	NW	5180	4880	34	27	01E	2	WR	14.00	14.00	20.00	20.00
A 7490	00	IRR	NK	G		SE	NE	NE	4260	500	05	28	01E	1	WR	19.00	19.00	33.00	33.00
A 7494	00	IRR	NK	G	NC	N2	SE	NE	3630	660	31	27	01E	1	WR	26.00	26.00	20.00	20.00
A 31635	00	THX	NK	G		SW	SE	NE	2840	710	20	27	01E	11	WR	70.51	70.51		
A 33667	00	IND	NK	G					2300	4310	29	27	01E	3	WR	0.45	0.45		
A 34480	00	IND	NK	G		NW	NW	NE	5030	2200	33	27	01E	2	WR	38.36	38.36		
A 36534	00	THX	NK	G					980	165	20	27	01E	22	WR	22.28	22.28		
A 39757	00	THX	NK	G		SW	SE	NE	2840	675	20	27	01E	10	WR	84.92	84.92		
A 40020	00	THX	NK	G		SW	SE	NE	2840	710	20	27	01E	11	WR	14.36	14.36		
A 40835	00	IRR	NK	G		NW	SE	NW	4950	3900	29	27	01E	5	WR	16.00	16.00	10.62	10.62
A 40839	00	IRR	NK	G		SW	NE	NW	4600	3950	29	27	01E	6	WR	13.41	13.41	8.94	8.94
A 45461	00	IND	LR	G		SW	SE	SW	650	3500	03	28	01E	2	WR	30.69	30.69		
A 48403	00	IND	GY	G		SE	NW	NW	4300	4200	09	28	01E	3	WR	65.00	65.00		
A 48643	00	IND	AY	G		SE	SW	SW	630	4000	04	28	01E	6	WR	5.00	5.00		
A 48855	00	IND	AY	G		NW	SE	SE	1320	1102	32	27	01E	2	WR	161.30	161.30		
A 48856	00	IND	AY	G		SE	SW	NE	3310	1475	32	27	01E	3	WR	161.30	161.30		
A 48857	00	IND	AY	G		NE	SE	SE	680	335	29	27	01E	29	WR	161.30	161.30		
A 48858	00	IND	AY	G		NW	SE	NW	3700	3840	28	27	01E	3	WR	242.00	242.00		
A 48859	00	IND	AY	G		SE	NE	SW	1290	2695	28	27	01E	2	WR	242.00	242.00		

5.00 Senior file

-0 add'l

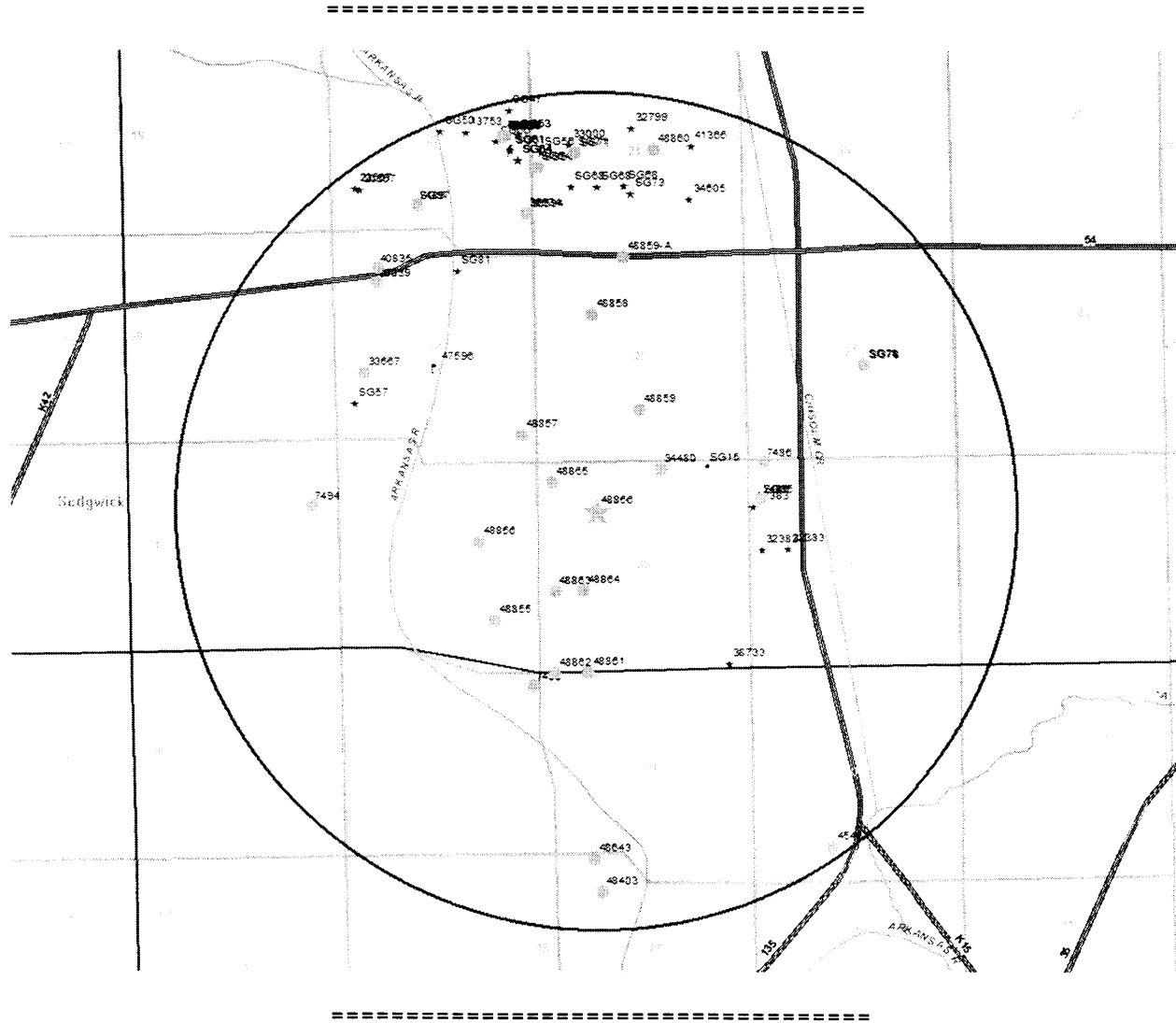
A	48859	A	IND	AY	G	NE NE NW	5140	3050	28	27	01E	1	WR	242.00	242.00		
A	48860	00	IND	AY	G	NW NW SE	2565	2250	21	27	01E	32	WR	161.30	161.30		
A	48861	00	IND	AY	G	NE NW NW	5350	4085	04	28	01E	7	WR	161.30	161.30		
A	48862	00	IND	AY	G	NW NW NW	5350	4930	04	28	01E	8	WR	161.30	161.30		
A	48863	00	IND	AY	G	SW NW SW	1970	4890	33	27	01E	6	WR	161.30	161.30		
A	48864	00	IND	AY	G	SW NE SW	1970	4170	33	27	01E	7	WR	161.30	161.30		
A	48865	00	IND	AY	G	NW NW NW	4720	4940	33	27	01E	9	WR	161.30	161.30		
A	48866	00	IND	AY	G	NE SE NW	3990	3810	33	27	01E	8	WR	242.00	242.00		
V SG	54	00	THX	AA	G		2120	5160	21	27	01E	4	WR	389.75	389.75		
V SG	71	00	THX	AA	G		2480	4240	21	27	01E	2	WR	15.34	15.34		
V SG	78	00	THX	AA	G	NW NW SE	0	0	27	27	01E	1	WR	38.36	38.36		
V SG	95	00	IRR	AA	G	SW NW NW	0	0	34	27	01E	1	WR	50.00	50.00	45.00	45.00
V SG	97	00	IRR	AA	G	NE SE SW	0	0	20	27	01E	1	WR	18.00	18.00	8.00	8.00

0 add'l.

~400

=====

Safe Yield Report Sheet
Water Right- A4886600
Point of Diversion in NWSENE 33-27S 1E 8 (82355)



AMOUNT STATISTICS REPORT FOR POINTS OF DIVERSION UNDER A 48866 00

#####

*meets
Spacing*

AMOUNT STATISTICS REPORT FOR POINTS OF DIVERSION UNDER A 48866 00 IND

Water Right and Points of Diversion Within 2.00 miles of point defined as:

3990 Feet North and 3810 Feet West of the Southeast Corner of Section 33 T 27S R 1E

GROUNDWATER ONLY

File Number	Use	ST	SR	Dist (ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit
A__ 7486 00	IRR	NK	G	4411	--	NW	NW	NW	5180	4880	34	27	1E	2		14.00	14.00	AF
A__ 7490 00	IRR	NK	G	4707	--	SE	NE	NE	4260	500	5	28	1E	1		19.00	19.00	AF
A__ 7494 00	IRR	NK	G	7186	NC	N2	SE	NE	3630	660	31	27	1E	1		26.00	26.00	AF
A__ 31635 00	THX	NK	G	9762	--	SW	SE	NE	2840	710	20	27	1E	11		70.51	70.51	AF
A__ 33667 00	IND	NK	G	6839	--	--	--	--	2300	4310	29	27	1E	3		.45	.45	AF
A__ 34480 00	IND	NK	G	1917	--	NW	NW	NE	5030	2200	33	27	1E	2		38.36	38.36	AF
A__ 36534 00	THX	NK	G	7748	--	--	--	--	980	165	20	27	1E	22		22.28	22.28	AF
A__ 39757 00	THX	NK	G	9757	--	SW	SE	NE	2840	675	20	27	1E	10		84.92	84.92	AF
A__ 40020 00	THX	NK	G	9762	--	SW	SE	NE	2840	710	20	27	1E	11		14.36	14.36	AF
A__ 40835 00	IRR	NK	G	8250	--	NW	SE	NW	4950	3900	29	27	1E	5		16.00	16.00	AF
A__ 40839 00	IRR	NK	G	8024	--	SW	NE	NW	4600	3950	29	27	1E	6		13.41	13.41	AF
A__ 45461 00	IND	LR	G	10397	--	SW	SE	SW	650	3500	3	28	1E	2		30.69	30.69	AF
A__ 48403 00	IND	GY	G	9647	--	SE	NW	NW	4300	4200	9	28	1E	3		65.00	65.00	AF
A__ 48643 00	IND	AY	G	8818	--	SE	SW	SW	630	4000	4	28	1E	6		5.00	5.00	AF
A__ 48855 00	IND	AY	G	3796	--	NW	SE	SE	1320	1102	32	27	1E	2		161.30	161.30	AF
A__ 48856 00	IND	AY	G	3090	--	SE	SW	NE	3310	1475	32	27	1E	3		161.30	161.30	AF
A__ 48857 00	IND	AY	G	2692	--	NE	SE	SE	680	335	29	27	1E	29		161.30	161.30	AF
A__ 48858 00	IND	AY	G	4989	--	NW	SE	NW	3700	3840	28	27	1E	3		242.00	242.00	AF
A__ 48859 00	IND	AY	G	2807	--	SE	NE	SW	1290	2695	28	27	1E	2		242.00	242.00	AF
A__ 48859 A	IND	AY	G	6473	--	NE	NE	NW	5140	3050	28	27	1E	1		242.00	242.00	AF
A__ 48860 00	IND	AY	G	9279	--	NW	NW	SE	2565	2250	21	27	1E	32		161.30	161.30	AF
A__ 48861 00	IND	AY	G	4105	--	NE	NW	NW	5350	4085	4	28	1E	7		161.30	161.30	AF
A__ 48862 00	IND	AY	G	4246	--	NW	NW	NW	5350	4930	4	28	1E	8		161.30	161.30	AF
A__ 48863 00	IND	AY	G	2291	--	SW	NW	SW	1970	4890	33	27	1E	6		161.30	161.30	AF
A__ 48864 00	IND	AY	G	2052	--	SW	NE	SW	1970	4170	33	27	1E	7		161.30	161.30	AF
A__ 48865 00	IND	AY	G	1345	--	NW	NW	NW	4720	4940	33	27	1E	9		161.30	161.30	AF
A__ 48866 00	IND	AY	G	0	--	NE	SE	NW	3990	3810	33	27	1E	8		242.00	242.00	AF
T__ 919043 00	CON	HK	G	10163	--	NE	SW	NW	3570	3990	21	27	1E	15	G 3	286.33	286.33	AF
Same				10278	--	NE	SW	NW	3685	3965	21	27	1E	16	B 3			
Same				10110	--	NE	SW	NW	3515	4063	21	27	1E	17	B 3			
Same				10371	--	NW	SE	NW	3780	3784	21	27	1E	29	B 3			
T__ 929082 00	CON	HK	G	10093	--	NW	SE	NW	3500	3500	21	27	1E	18		95.75	95.75	AF
T__ 20009098 00	CON	II	G	858	--	SE	NW	NW	4500	4500	33	27	1E	3		1863.00	1863.00	AF
P__ 20130865 00	DEW	GY	G	10483	--	NC	S2	NW	3300	3960	31	27	1E	9		92.07	92.07	AF
VSG 54 00	THX	AA	G	8818	--	--	--	--	2120	5160	21	27	1E	4		389.75	389.75	AF
VSG 71 00	THX	AA	G	9081	--	--	--	--	2480	4240	21	27	1E	2		15.34	15.34	AF
VSG 78 00	THX	AA	G	7702	--	NW	NW	SE	-----	-----	27	27	1E	1		38.36	38.36	AF
VSG 95 00	IRR	AA	G	4148	--	SW	NW	NW	-----	-----	34	27	1E	1		50.00	50.00	AF
VSG 97 00	IRR	AA	G	8969	--	NE	SE	SW	-----	-----	20	27	1E	1		18.00	18.00	AF

Total Net Quantities Authorized:	Direct	Storage
Total Requested Amount (AF) =	2424.70	.00
Total Permitted Amount (AF) =	2402.14	.00
Total Inspected Amount (AF) =	30.69	.00



Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, Kansas 66619

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer
Katherine A. Tietsort, Water Commissioner

Phone: (785) 296-5733
Fax: (785) 862-2460
www.agriculture.ks.gov
Sam Brownback, Governor

August 27, 2014

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
% DEBRA E ARY PE
455 N MAIN 7TH FLOOR
WICHITA KS 67202

Re: Pending Applications, File Nos. 48,855 through 48,866
Gilbert and Mosley site

Dear Ms. Ary:

In response to our discussion on August 26, 2014, the Chief Engineer is allowing an additional extension of time in which to further review operational requirements and potential uses of your proposed well field. The thirteen (13) applications referenced above are proposing to use groundwater from existing wells for industrial use. The existing wells were installed to extract groundwater for a contamination remediation project identified as the Gilbert and Mosley site. The wells are located throughout Sections 21; 28; 29; 32; and 33 in Township 27 South, Range 1 East, and Section 4, Township 28 South, Range 1 East.

This extension of time appears reasonable based on the in-depth review to better determine safe yield quantities, and the complexity of this well field project. No specific deadline is being proposed to complete the review process, in order to minimize unnecessary correspondence and provide for more efficient evaluation of your options. If you have any questions, please contact me at (785) 296-3495. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

A handwritten signature in cursive script that reads "Doug Schemm".

Douglas Schemm
Environmental Scientist
Topeka Field Office



Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, Kansas 66619

Phone: (785) 296-5733
Fax: (785) 862-2460
www.agriculture.ks.gov

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer
Katherine A. Tietsort, Water Commissioner

Sam Brownback, Governor

June 30, 2014

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
% DEBRA E ARY PE
455 N MAIN 7TH FLOOR
WICHITA KS 67202

Re: Pending Applications, File Nos. 48,855 through 48,866
Gilbert and Mosley site

Dear Ms. Ary:

In response to your written request received in our office on June 6, 2014, the Chief Engineer is allowing an extension of time until **August 30, 2014**, in which to further review operational requirements of your proposed well field. The thirteen (13) applications referenced above are proposing to use groundwater from existing wells for industrial use. The existing wells were installed to extract groundwater for a contamination remediation project identified as the Gilbert and Mosley site. The wells are located throughout Sections 21; 28; 29; 32; and 33 in Township 27 South, Range 1 East, and Section 4, Township 28 South, Range 1 East. The water is to be used at the Spirit AeroSystems facility, which is located in Section 11, Township 28 South, Range 1 East, all in Sedgwick County.

As noted in our previous correspondence to you dated May 22, 2014, based on safe yield determinations, Application, File Nos. 48,860; 48,865; and 48,866 do not meet safe yield criteria. It would be recommended to the Chief Engineer that pending application, File Nos. 48,860; 48,865; and 48,866 be denied and dismissed due to the failure to meet safe yield criteria, as required by K.A.R. 5-3-10 and K.A.R. 5-3-11.

This extension of time appears reasonable based on the in depth review to better determine safe yield quantities, and the complexity of this well field project. If you have any questions, please contact me at (785) 296-3495. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

A handwritten signature in cursive script that reads "Doug Schemm".

Douglas Schemm
Environmental Scientist
Topeka Field Office

pc: Stafford Field Office



Public Works & Utilities

WATER RESOURCES
RECEIVED

JUN 06 2014

KS DEPT OF AGRICULTURE

Division of Water Resources
Kansas Department of Agriculture
% Doug Schemm, New Application Unit Supervisor
Water Appropriation Program
109 SW 9th St.
Topeka, KS 66612-1283

June 4, 2014

RE: Pending Application, File Nos. 48,855 through 48,866 Gilbert and Mosley site.

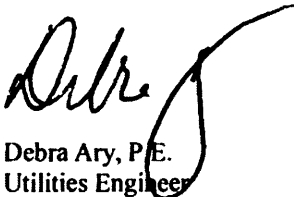
Dear Mr. Schemm,

The City of Wichita has received your letter recommending that pending Application File Nos. 48,860; 48,865; and 48,866 be considered for denial as they do not meet safe yield criteria as required by K.A.R. 5-3-10 and K.A.R. 5-3-11. The City is hereby requesting additional time to review the operational requirements of the proposed well field and to determine what impact the potential loss of the requested wells will have. The City would like to consider at a minimum, the possibilities of reducing the amount requested on related pending applications or requesting that all files be approved with a limited quantity

If you have any questions or need additional information, please do not hesitate to contact me at 316-268-4614 or dary@wichita.gov.

Respectfully,

CITY OF WICHITA PUBLIC WORKS & UTILITIES



Debra Ary, P.E.
Utilities Engineer

Engineering Systems Planning Division
455 N Main – 7th Floor * Wichita, KS 67202
T: 316.268-4614
www.wichita.gov


Kansas
Department of Agriculture
Division of Water Resources

109 SW 9th Street, 2nd Floor
Topeka, Kansas 66612-1280

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer

Phone: (785) 296-3717
Fax: (785) 296-1176
www.agriculture.ks.gov
Sam Brownback, Governor

May 22, 2014

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
% DEBRA E ARY PE
455 N MAIN 8TH FLOOR
WICHITA KS 67202

Re: Pending Application, File Nos. 48,855 through 48,866
Gilbert and Mosley site

Dear Ms. Ary:

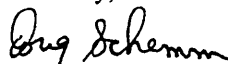
We have conducted further review of your thirteen (13) applications referenced above, which are proposing to use groundwater from existing wells for industrial use. The existing wells were installed to extract groundwater for a contamination remediation project identified as the Gilbert and Mosley site. The wells are located throughout Sections 21; 28; 29; 32; and 33 in Township 27 South, Range 1 East, and Section 4, Township 28 South, Range 1 East. The water is to be used at the Spirit AeroSystems facility, which is located in Section 11, Township 28 South, Range 1 East, all in Sedgwick County.

Based on the shallow depth of the wells, and geographical location, the source of water for the pending applications appears to be the Arkansas River alluvium. The specific method for calculating safe yield for unconfined groundwater aquifers is described in K.A.R. 5-3-11. Per K.A.R. 5-3-11(d)(1), the safe yield area of consideration represents the portion of the two-mile circle located within the limit of the unconfined aquifer expressed in acres. For these applications, the alluvium extends across the entire area of consideration, so the entire 8,042 acres were used to evaluate safe yield for each application. In addition, DWR has completed an evaluation of the USGS Scientific Investigations Report 2004-5204 entitled "Characterization and Simulation of Flow in the Lower Arkansas River Alluvial Aquifer, South-Central Kansas", and has determined that the precipitation recharge value of 5.4 inches per year that is used in the model is reasonable and appropriate. In order to reserve water in the alluvial aquifers that can contribute to base flow to area streams and for domestic use, it was determined that 75 percent of the 5.4 inches of precipitation recharge shall be available for appropriation. Therefore, for all pending applications within the model area, safe yield is evaluated using the standard methodology in K.A.R. 5-3-11, which is based on the extent of the unconfined aquifer (area of consideration), a Potential Annual Recharge value of 5.4 inches, and a percent of recharge available for appropriation of 75%.

Based on safe yield determinations, Application, File Nos. 48,860; 48,865; and 48,866 do not meet safe yield criteria. Therefore, it will be recommended to the Chief Engineer that pending application, File Nos. 48,860; 48,865; and 48,866 be denied and dismissed due to the failure to meet safe yield criteria, as required by K.A.R. 5-3-10 and K.A.R. 5-3-11.

We are advising you of this recommendation in order to allow you an opportunity to submit additional information to show why our evaluation should be reconsidered. You have a period of 15 days (**until June 6, 2014**) to either (1) submit additional information to our office or (2) request additional time beyond the 15 days to submit additional information. If you wish to request additional time, you must do so **in writing**, before the 15 day period expires. Such a request should state what steps are being taken to obtain the information and the amount of time you will need to supply the information to our office. If you do not request more time within the 15 day period, or if your request is not granted, the above-referenced applications will be submitted to the Chief Engineer for final decision based on the recommendation stated above. Any relevant credible information submitted within the time allowed will be given due consideration, prior to final action on the applications. If you have any questions, please contact me at (785) 296-3495. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,



Douglas Schemm
New Application Unit Supervisor
Water Appropriation Program

pc: Stafford Field Office



Public Works & Utilities

Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
109 SW 9th St.
Topeka, KS 66612-1283

October 28, 2013

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RE: Applications for Permits to Appropriate Water for Beneficial Use

KS DEPT OF AGRICULTURE

Dear Mr. Barfield,

The City of Wichita has been operating thirteen (13) extraction wells in the Gilbert and Mosley site under Term Permit 20009098. Water from these wells is transported to the City's WATER Center where it is treated using a hydraulic-venturi air stripper treatment system designed to remove volatile organic compounds (VOCs) from the groundwater prior to discharge to the Arkansas River.

The City of Wichita has been researching alternate sources of water for some time and the beneficial reuse of this water rather than the loss to the river has been one of the sources under consideration. This wellfield has been in operation since 2002 and KDHE's authorized pumping rate can provide up to 1.7 million gallons per day. The project is proving to be effective reducing the contamination plume and three wells have been turned off as the groundwater quality in their area of influence has returned to an acceptable level. To secure this wellfield as a long term water source, the City desires a permanent water right for each of the 13 extraction wells.

Spirit AeroSystems has approached the City with a request to provide an alternate source of water that will not be affected if water restrictions are implemented in response to drought mitigation. Their current water request is for 1.4 million gallons a day which could be met with the existing Gilbert and Mosley wellfield with some level of redundancy.

As these wells have been operational for 11 years and have shown no signs of impairment to the area, the existing Gilbert and Mosley extraction wells can support Industrial water rights with Spirit AeroSystems as the Place of Use. The water would be transported through the WATER Center, where after treatment it would be delivered via a pipeline to Spirit AeroSystem's Reverse

Engineering Systems Planning Division
455 N Main – 7th Floor * Wichita, KS 67202
T: 316.268-4614
www.wichita.gov

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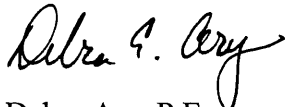
Osmosis treatment plant for industrial use. Future expansion of the City's Northwest Industrial Corridor mitigation project will deliver additional water to the WATER Center for treatment and can be used to supply Spirit as their use increases and provide redundancy to the Gilbert and Mosley wellfield.

Please find enclosed 13 individual Applications for Permits to Appropriate Water for Beneficial Use for Gilbert and Mosley Wells, A-1, A-2, A-3, A-4, B-1, B-2, B-3, E-1, E-2, E-3, E-4, E-5 and E-6 as well as the associated application fee of \$3,900. Spirit's desire is to pursue this project with haste to ensure that their operations may continue in the event of an extended drought. Also included is an Industrial Use Supplemental Sheet for Spirit AeroSystems, a site plan showing their current Place of Use boundaries and an aerial depicting two potential pipeline routes from the WATER Center to Spirit AeroSystems.

If you have any questions or need additional information, please do not hesitate to contact me at 316-268-4614 or dary@wichita.gov.

Respectfully,

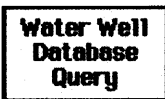
CITY OF WICHITA PUBLIC WORKS & UTILITIES



Debra Ary, P.E.
Utilities Engineer

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KS DEPT OF AGRICULTURE

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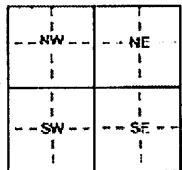
Scan of WWC5 Form

118 5533 WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. E-5

1 LOCATION OF WATER WELL: Fraction Section Number Township Number Range Number
 County: Sedgwick 14 SE 14 NW 33 T 27 S R 1 E W

Distance and direction from nearest town or city street address of well if located within city?
Northwest of the intersection of Funston and Santa Fe

2 WATER WELL OWNER: City of Wichita Board of Agriculture, Division of Water Resources
 RR#, St. Address, Box #: 455 N. Main Application Number:
 City, State, ZIP Code: Wichita, KS 67202

3 LOCATE WELL'S LOCATION WITHIN AN "X" IN SECTION BOX:


4 DEPTH OF COMPLETED WELL: 32 ft. ELEVATION: unknown
 Depth(s) Groundwater Encountered 1 ft. 2 ft. 3 ft.
 WELL'S STATIC WATER LEVEL: not checked ft. below land surface measured on mo/day/yr
 Pump test data: Well water was not checked ft. after hours pumping gpm
 Est. Yield unknown gpm: Well water was not checked ft. after hours pumping gpm
 Bore Hole Diameter: 18 in. to 32 ft., and in. to ft.
 WELL WATER TO BE USED AS:
 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Domestic (lawn & garden) 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (specify below) Extraction Well
 Was a chemical/bacteriological sample submitted to Department? Yes No If yes, mo/day/yr sample was submitted Water Well Disinfected? Yes No

5 TYPE OF BLANK CASING USED:
 1 Steel 2 PVC 3 RWP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below) CASING JOINTS: Gasketed Welded Threaded Cleared
 Blank casing diameter: 10 3/4 in. to 32 ft., Dia. in. to ft., Dia. in. to ft.
 Casing height above land surface: 12 in., weight 12.23 lbs./ft. Wall thickness or gauge No. 583

TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RWP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
 SCREEN OR PERFORATION OPENINGS ARE:
 1 Continuous slot 2 Louvered slotted 3 Mesh slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)
 SCREEN-PERFORATED INTERVALS: From 14 ft. to 31 ft. From ft. to ft.
 GRAVEL PACK INTERVALS: From 15 ft. to 32 ft. From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other Bentonite Holeplug
 Grout intervals: From 4 ft. to 13 ft., From 0 ft. to 4 ft., From 13 ft. to 15 ft.
 What is the nearest source of possible contamination:
 1 Septic tank 2 Sewer lines 3 Water/eff sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) None known
 Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	7	Clay, brown			
7	32	Sand and gravel, fine, medium, coarse, loose, clean			
32		Shale, gray			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed (2) reconstructed or (3) plugged under my jurisdiction and was completed on (mo/day/year) 9-18-01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 185 This Water Well Record was completed on (mo/day/yr) 9-28-01 under the business name of Clarke Well & Equipment, Inc. by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS HARDY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send trip three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each constructed well.

Kansas Geological Survey
 Comments to webadmin@kgs.ku.edu
 URL=http://www.kgs.ku.edu/Magellan/WaterWell/index.html
 Display Programs Updated July 29, 2004
 Data added continuously.

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Well E-6

Section 33, T27S, R1E

Domestic Well Owners within KGS WWC5 Database

It is recommended that a Public Notice be published in the Wichita Eagle rather than send individual letters to homeowners due to the potential for domestic water wells to NOT be listed in the KGS WWC5 Database.

WEISEN BRAD J 2002 S Main Mailing Address: 503 N Wheatland Pl Wichita, KS 67235 Section 32, T27S, R1E	MAJOR, SYLVIA R ETAL 1931 S Topeka Mailing Address: 721 W 21 st St Andover, KS 67002 Section 32, T27S, R1E	BETHANY METHODIST CHURCH 1639 S Main Mailing Address 1601 S Main Wichita, KS 67213 Section 32, T27S, R1E
KAAZ, DANIEL D & DOLORES G 428 W Skinner Wichita, KS 67213 Section 32, T27S, R1E	BETHANY METHODIST CHURCH 1626 S Water Mailing Address 1601 S Main Wichita, KS 67213 Section 32, T27S, R1E	MILLER C G JR REV TR 1659 S Main Mailing Address: 1813 N Kevin Wichita, KS 67208 Section 32, T27S, R1E
CHAVEZ, CARLOS 1642 S Main Wichita, KS 67213 Section 32, T27S, R1E	BAILEY WILLIAM R & ALICE A 2125 S Emporia Wichita, KS 67213 Section 32, T27S, R1E	LEDESMA SHARON K 1753 S Topeka Wichita, KS 67213 Section 32, T27S, R1E
TOVAR-ORNELAS RICARDO 1625 S Emporia Wichita, KS 67213 Section 32, T27S, R1E		

Injection Well/Air Sparge/SVE Operators within KGS WWC5 Database

HOPPOCK JENNIFER FAMILY TRUST (Quiktrip on map) 2010 S Broadway Mailing Address: PO Box 3475 Tulsa, OK 74101 Section 33, T27S, R1E	City of Wichita Mailing Address: 1900 E 9 th Street Wichita KS 67214 Sections 28, 29, 32 and 33, T27S, R1E	NGUYEN MONG LAN THI (Discount Cigarettes on map) 2160 S Broadway Wichita KS 67211 Section 33, T27S, R1E
--	--	--

Cooling Water Disposal

DELGADO JUAN A & MARIA L SALAZAR (Grede on map) 805 E Boston Mailing Address: 2514 N Hazelwood Wichita, KS 67205 Section 28, T27S, R1E	Industrial Water Right 34480-00 Bodycote Thermal Processing Inc. 1618 S Ida Mailing Address: 12700 Park Central Dr. Dallas TX, 75251
--	--

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KS DEPT OF AGRICULTURE

SEARCHED

**INDUSTRIAL USE
SUPPLEMENTAL SHEET**

*Revised to
IRR use*

File No. 48,866

Name of Applicant (Please Print): City of Wichita Public Works + Utilities / Spirit Aerosyst

1. Please describe type of industry or product produced: Aircraft Manufacturing / Fabrication
Standard Industrial Classification Code Number: 3728

2. Please complete the following table to show your past and present water requirements:

PAST PRODUCT PRODUCTION AND WATER DIVERTED, IF APPLICABLE

LAST 5 YEARS	AMOUNT OF PRODUCT	WATER DIVERTED (GALLONS)	GALLONS PER PRODUCT PER DAY
5 years ago		613,143,000	
Last year		551,312,000	
Present year		510,000,000	

3. Please complete the following table to show your future water requirements:

ESTIMATED FUTURE PRODUCT PRODUCTION AND WATER DIVERTED

NEXT 5 YEARS	AMOUNT OF PRODUCT	WATER TO BE DIVERTED (GALLONS)	GALLONS PER PRODUCT PER DAY
Year 1		511,000,000	1,400,000
Year 2		511,000,000	1,400,000
Year 3		511,000,000	1,400,000
Year 4		511,000,000	1,400,000
Year 5		511,000,000	1,400,000

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Number of days of operation of the industry per year is 365 days.

NOV 06 2013

Please attach any tables, curves or additional information showing past, present and estimated future water requirements to substantiate the amount of water requested.

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4. Please designate the legal description of the location where the water is to be used. Show in the space provided below the Section (S), Township (T), and Range (R), and the number of acres in each forty acre tract or fractional portion thereof.

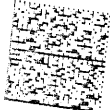
S	T	R	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTAL			
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE				
11	28	1E	275	0	225	40								5	0	4	24.5	40	40	40	40	283.5
12	28	1E					16.5	20.5	18	0	0	10.5	10.5									76
S	T	R	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTAL			
NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW		SE		
13	28	1E						3														3
14	28	1E	40	40	40	40	20.5	0	0	19.5	0	0	0	2	138	21.5	20	0				257.3
																						619.8

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

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Wichita Air Services Inc
c/o Consolidated Holdings
8621 E 21st St N Suite 250
Wichita KS 67206

Priority Mail
ComBasPrice



U.S. POSTAGE PRIME SOWES

ZIP 67206 \$ 005.32⁰
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0585

STATE OF KANSAS DEPT OF AGRICULTURE
109 SW 9TH 2ND FLOOR
DIVISION OF WATER RESOURCES
TOPEKA KS 66612-1283

COANNED


Kansas
Department of Agriculture
Division of Water Resources

109 SW 9th Street, 2nd Floor
Topeka, Kansas 66612-1283

phone: (785) 296-3717
fax: (785) 296-1176
www.ksda.gov/dwr

Dale A. Rodman, Secretary
David W. Barfield, Chief Engineer

Sam Brownback, Governor

November 7, 2013

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
455 N MAIN 8TH FLOOR
WICHITA KS 67202

RE: Application
File No. 48,866

Dear Sir or Madam:

Your application for permit to appropriate water in 33-27S-1E, in Sedgwick County, was received and has been assigned the file number noted above.

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

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

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

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

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

If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,



Douglas W. Schemm
New Application Unit Supervisor
Water Appropriation Program

DWS: al
pc: Stafford Field Office

COPIED

Potential Transmission Pipeline Routing



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City of Wichita B-1
and
SW of Zimmerly
Washington
1290' N and 2695' W

Grede
Foundaries
Cooling Disposal

Water Right
34880

City of Wichita

City of Wichita E-6
NW of Funston & Santa
Fe
3990' N & 3810' W of
the SE Section Corner

City of Wichita E-5

City of Wichita A-3

~~Kwik Stop~~

City of Wichita A-2

Quick Trip

Discount Cigarettes

City of Wichita E-3

City of Wichita E-4

Cintas

City of Wichita A-1

- Domestic Irrigation
- Air Sparge-SVE
- Air Conditioning
- City of Wichita Air Sparge/SVE

KDHE

BP Products

Section 33
T27S R4E

Section 27
T27S R1E

Section 34
T27S R1E

Section 28
T27S R1E

Section 32
T27S R1E