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March 24, 2019

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Re: Hays/Russell Water Transfer – Change Applications for Water Right files numbered: 21,729-D1; 21,729-D2; 21,730; 21,731; 21,732-D1; 21,732-D2; 21,733; 21,734; 21,841; 21,842; 22,325; 22,326; 22,327; 22,329; 22,330; 22,331; 22,332; 22,333; 22,334; 22,335; 22,338; 22,339; 22,340; 22,341; 22,342; 22,343; 22,345; 22,346; 27,760; 29,816; 30,083; and 30,084.

Dear David, Aaron, and Brent,

Since filing the original Change Applications in preparation for the Transfer, additional facts have come to light and we have engaged in significant negotiations over the terms and conditions of the Master Order approving the contingent Change Applications.

The Cities are submitting amendments to the Change Applications for each of the referenced Water Rights. The Change Applications, as amended, are made up of the following:

A. This Cover Letter;

B. the original Change Applications filed on June 26, 2015, and April 27, 2018, with the substitute pages being transmitted today replacing the relevant pages

of the original Applications and the substitute pages filed in November of 2016;

C. the Exhibits attached to the substitute pages filed in November of 2016, generally consisting of maps showing the proposed location of the new municipal wells; and

D. the additional Exhibits attached to the substitute pages being filed today, generally consisting of the KGS WWC-5P well-plugging reports for most of the irrigation wells on the R9 Ranch.

The Change Applications, as amended, are contingent on (a) the entry of the Master Order as a Final Order with terms that are acceptable to the Cities and (b) the occurrence of the contingencies in the *Effective Date and Expiration Date* Section of the Master Order.

The content of this letter is incorporated into each of the Change Applications by reference and supersedes the June 25, 2015, cover letter transmitting the original Change Applications. The Cities respectfully request DWR's contingent approval of the Applications as amended.

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I. Supplemental information for the Cities' amended Change Applications

The numbered paragraphs below correspond to the paragraph numbers in DWR's change application form and are incorporated in each of the applications unless otherwise indicated.

A. Paragraph 2. Name of Applicants

Please direct all correspondence to the lawyers for the City of Hays on all issues related to the Change Applications as follows:

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B. Paragraph 3. The proposed changes are needed for the following reasons

1. Existing sources do not meet present needs—the City of Hays

The City of Hays owns water rights in the Smoky Hill River alluvium south of Hays, in the Big Creek alluvium in Hays, in the Dakota formation southwest of Hays, and is currently using water from a KDHE Dry Cleaner Trust Fund remediation project.[1]

Hays has water rights totaling an annual quantity of approximately 3,735[2] acre-feet, limited to no more than 3,675 acre-feet, and further limited by the Smoky Hill IGUCA.[3] But production from the City's wells is decreasing, and in recent years Hays

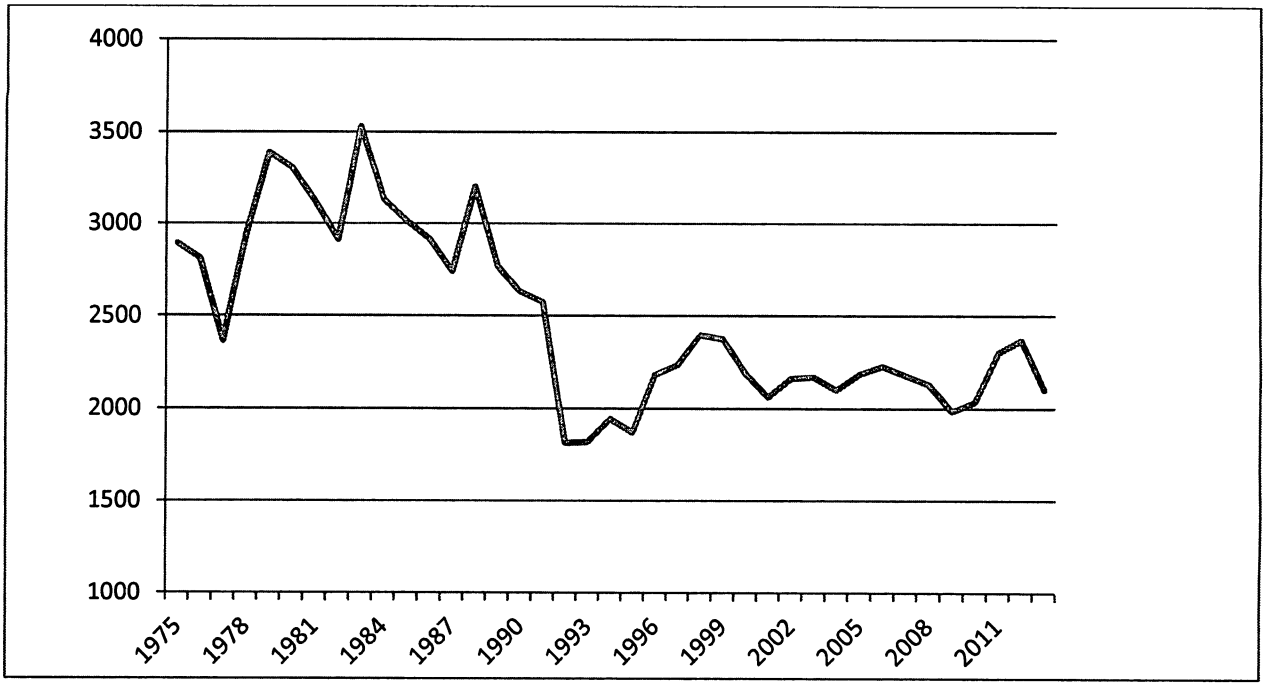
[1] Water from this source is being diverted under a temporary water appropriation right.

[2] Some of the later water appropriation rights held by the City of Hays include a limitation to a total quantity of 3,675 acre-feet when combined with other rights and the Smoky Hill water rights are limited by DWR's IGUCA.

[3] *See* Exhibit B to the June 25, 2015 Cover Letter transmitting the original Change Applications.

has been unable to produce more than 2,000 to 2,200 acre-feet of water per year because of the significant depletion of its Big Creek and Smoky Hill alluvial sources. Total municipal water use in Hays is shown in the following graph.

City of Hays Municipal Water Use in Acre-Feet per Year



Construction of Cedar Bluff Reservoir on the Smoky Hill River in Trego County and modern farming practices that significantly reduce runoff in the Smoky Hill basin have each contributed to the depletion of the City's water sources. This forced Hays to implement drought-induced conservation ordinances that drove homeowners to drill thousands of domestic wells in the Big Creek alluvium. Ironically, these domestic wells are now directly competing with Hays for the same water, which has impaired the City's water rights.

Hays has been the poster child for water conservation in Kansas since the early 1990s, when it imposed significant restrictions on water use. Hays is the only city in Kansas to adopt the green plumbing code and implement landscaping requirements that significantly limit the area and type of vegetation that is routinely grown and irrigated in other Kansas communities. To keep consumption rates low, Hays has enacted stringent water conservation measures, mandated the use of water-saving devices, and implemented a program that pays part of the owners' cost to purchase and install these devices.

In addition, both Hays and Russell have water-rate ordinances with increasing block structures. While the first gallon of water is relatively inexpensive, as

consumption increases, so does the incremental rate. This approach has dramatically decreased the per capita water use by residents.

Hays residents have embraced these conservation efforts, and take pride in their accomplishments, but carrying the banner as the statewide leader in conservation has created a widely held perception that Hays lacks water. The City is at the effective limits of conservation for this part of the country. If Hays pushed even harder by adopting some of the draconian tactics used by cities like Las Vegas and Phoenix, it would be thrust even farther away from its peer communities in Kansas, further repelling private and commercial investment.

Hays is the economic engine of Northwest Kansas; its continued growth and economic viability are crucial to the entire state. This is only possible if Hays has access to a water supply consistent with the reasonable expectations of citizens in other Kansas communities.

While abundant water does not guarantee that economic development will occur, development cannot occur without it. Hays has no interest in reverting to wasteful practices—conservation is, and will always be, a part of the culture in Hays. Instead, Hays is looking for additional water to ensure the long-term viability of the community and the region.

In order to grow, Hays must change the perception that it is short of water, which cannot be done until Hays changes the ***reality*** that it is short of water. Additional water resources will assure current and prospective businesses that water supplies meet and exceed current and long-term needs.

2. Existing sources do not meet present needs—the City of Russell

The discussion about Hays applies to the City of Russell as well. Russell is located in an arid climate where, like Hays, the evaporation rate exceeds the average annual rainfall.

Russell's water rights are designated with the following DWR file numbers: RS008; 1,267; 1,861; 7,628; 17,586; 17,587; and 36,680. These water rights provide Russell with the following quantities:

Cedar Bluff Reservoir	2,000 acre-feet	storage right
Smoky Hill River	1,086 acre-feet	surface water
Smoky Hill River	961 acre-feet	groundwater
Fossil Lake	410 acre-feet	surface water
Big Creek	1,767 acre-feet	surface water

While the City of Russell has water rights totaling an annual quantity of approximately 5,814 acre-feet, it is limited to no more than 1,840 acre-feet per year from all sources combined.

Moreover, these sources are highly susceptible to drought. Big Creek is particularly unreliable because it frequently runs dry during the summer months. The Pfeifer well field is capable of supplying the water demand for a very short duration but could be permanently damaged if demand increases too much.

Russell has been able to manage its two main water sources effectively, but water use has been highly restricted over the last several years. Russell was in a Stage 3 Critical Water Stage or Stage 4 Water Emergency for 8 consecutive years.

The City of Russell and its citizens have responded to the City's warnings about their water supply and have significantly reduced their consumption. The industrial sector was able to reduce water consumption by 63% over 10 years. The residential/commercial sector was able to reduce their water consumption by 30% over the same time period. The exemplary conservation efforts have been well documented in the media.[4] In fact, in 2013, Russell's total water consumption dropped by 22 percent over the previous five years, with more than one-third of its residents using rain barrels to collect and reuse rainwater.[5]

Russell's water use peaked in the early 1980s, then dropped off precipitously in the mid-1980s.

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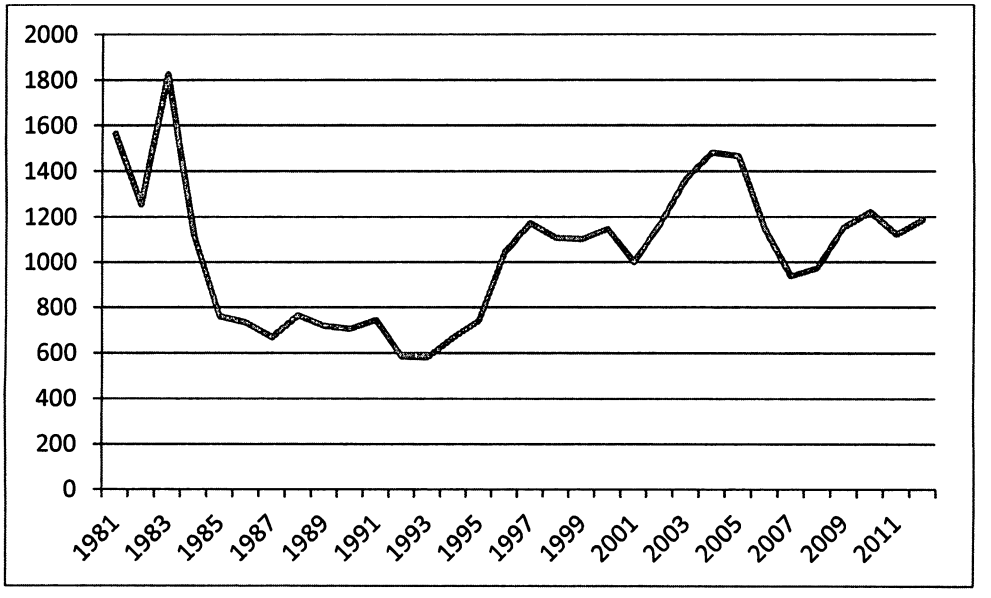
[4] Rick Montgomery, *Capturing Every Drop: Russell, Kan., Learns to Live with Drought*, The Kansas City Star (June 1, 2014), http://www.kansascity.com/news/state/kansas/article446882/Capturing-every-drop-Russell-Kan.-learns-to-live-with-drought.html. *See also Kansas Community Launches Educational Campaign to Help Promote Water Conservation*, AM Conservation Group (Jan. 20, 2014), http://www.amconservationgroup.com/blog/kansas-community-launches-educational-campaign-to-help-promote-water-conservation; Associated Press, *Russell seeks to conserve water* (July 11, 2012), http://cjonline.com/news/2012-07-11/russell-seeks-conserve-water.

[5] Montgomery, *Capturing Every Drop, supra* note 33.

City of Russell Municipal Water Use in Acre-Feet per Year



Russell's governing body recognizes the importance and scarcity of water in this region. In addition to investing in infrastructure, Russell looked to its neighbors to the west and their conservation efforts. In 2013, the City of Russell began offering free low-flow showerheads to its customers and implemented a new water-conservation education program for middle school science classes.[6] In 2014, Russell implemented a water-conservation rebate program, which promoted the purchase and proper installation of high-efficiency toilets.

As with other cities in this region, Russell must change the perception that it is short of water. This cannot be accomplished until it changes the reality that it is short of water. A reliable, sustainable, 100-year water source will assure current and prospective residents and businesses that Russell can sustain current and long-term needs.

3. Drought and the prospect of long-term mega-droughts

Historically, the water shortages in Hays and Russell have been cyclical. But the drought that began in 2010 was extremely hard on the Cities' water sources and water shortages are now part of Hays' and Russell's daily life. Though those shortages become extreme during droughts, the Cities have entered a "new norm" that will extend beyond the current situation. In fact, with changing rainfall patterns and new farming practices it is hard to envision a time when the available alluvial aquifers will

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[6] http://www.amconservationgroup.com/blog/kansas-community-launches-educational-campaign-to-help-promote-water-conservation.

ever produce the quantities authorized or even sufficient quantities to meet the Cities' existing and future needs.

A recent Kansas Geological Survey ("KGS") article that analyzed paleoclimatological data concluded that "*we should expect decadal droughts on average two times a century in western Kansas.*"[7] More severe droughts will tax existing systems beyond their ability to cope; both Cities must take steps to protect their citizens from future droughts.

4. Reasonable per capita water use

Extreme conservation, while laudable, is not the standard on the High Plains and is not conducive to economic-development efforts. Hays and Russell residents have sacrificed in ways that other Kansans have not. The Cities should not have to maintain this strict conservation once a new source of water becomes available. Instead, the communities' reasonable needs must balance the virtues of conservation with the reasonable expectations of other Kansas communities. Moreover, existing and prospective businesses have a legitimate interest in how water is used in their communities. Water use affects lifestyle which, in turn, affects employers' ability to attract new employees and the Cities' efforts to attract new employers.

5. Proximity to an adequate source matters

DWR considers significantly higher per capita water use quantities to be reasonable for municipal use in other areas of the State—in fact, in ***all*** other areas of the State. A reasonable quantity in Hays and Russell should not be different than the reasonable quantities in Dodge City,[8] Pratt,[9] or Larned.[10]

As shown in Table 1, every Kansas county with a population in excess of 15,000 in the 2010 census—except Ellis County—is (a) on or east of U.S. Highway 81, the traditional dividing line between eastern and western Kansas; (b) over or near a major aquifer; or (c) both.

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[7] Anthony L. Layzell, A thousand years of drought and climatic variability in Kansas: Implications for water resources management, Kansas Geological Survey, 2012, p. 10 (emphasis in original).

[8] Dodge City averaged 199 GPCD during 2007–2011. DWR's 2011 Municipal Water Use Report ("Report"), p. available at: http://agriculture.ks.gov/docs/default-source/dwr-water-appropriation-documents/2011_ks_ municipal_water_use.pdf ?sfvrsn=2.

[9] Pratt averaged 195 GPCD during 2007-2011. *Id.*, p. 18.

[10] Larned averaged 203 GPCD during 2007-2011. *Id.*, p. 13.

Russell is even more isolated from viable sources. While it has very slightly more annual rainfall than Hays, its smaller size makes the economics of a long-distance pipeline more problematic.

Table 1				
County	Population in 2010 Census	East of Highway 81	On Highway 81	Has access to a major aquifer
Johnson	544,179	X		
Sedgwick	498,365		X	Equus Beds
Shawnee	177,934	X		
Wyandotte	157,505	X		
Douglas	110,826	X		
Leavenworth	76,227	X		
Riley	71,115	X		
Butler	65,880	X		
Reno	64,511			Equus Beds
Saline	55,606		X	
Crawford	39,134	X		
Finney	36,776			Ogallala
Cowley	36,311	X		
Montgomery	35,471	X		
Harvey	34,684		X	Equus Beds
Geary	34,362	X		
Ford	33,848			Ogallala
Lyon	33,690	X		
Miami	32,787	X		
McPherson	29,180		X	Equus Beds
Ellis	28,452			
Barton	27,674			Ogallala
Franklin	25,992	X		
Sumner	24,132		X	
Seward	22,952			Ogallala
Labette	21,607	X		
Pottawatomie	21,604	X		
Cherokee	21,603	X		
Dickinson	19,754	X		
Jefferson	19,126	X		
Atchison	16,924	X		
Neosho	16,512	X		
Osage	16,295	X		
Bourbon	15,173	X		

6. Average annual water use by Kansas municipalities

The reasonable quantity of water needed for municipal use in Kansas is dependent on average annual rainfall, proximity to a source, and population. More rainfall reduces water needs, and larger cities use more water per capita than smaller cities. DWR has deemed larger quantities to be "reasonable" in communities that have abundant supplies.

The following analysis demonstrates that a reasonable quantity of water for municipal use in Hays is about 200 gallons per capita per day ("GPCD").

DWR publishes an annual report on municipal water use in Kansas. The report divides the state into eight separate water-use "regions."[11] Based on average annual precipitation and on per capita use, the report compares average use by water utilities in each of these similar geographic areas.[12]

Region 1 is the western-most tier of counties and Region 8 is the eastern-most tier.[13] Hays is located in Region 5; Russell is in Region 6.[14]

Regions 7 and 8 are subdivided into small, medium, and large utilities with large utilities serving more than 10,000 people.[15] Hays would fit in the "large" category if Region 5 were so divided but would be the only such utility in that group.[16] Region 6 is divided into small and medium-large cities; Russell is in the medium-large category.[17]

a. Water use is inversely proportional to annual precipitation

The Report asserts that GPCD use is much higher in the west than in the east "primarily due to differences in precipitation."[18] Average annual precipitation in Region 1 (the far western tier of counties) ranges from below 18 inches to 21 inches.[19] Average

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[11] *Id.*, p. 38.

[12] *Id.*, p. 3.

[13] *Id.*, p. 38.

[14] *Id.*

[15] *Id.*, p. 4.

[16] *Id.*

[17] *Id.*

[18] *Id.*, p. 3.

[19] *Annual Normal Precipitation, 1971–2000,* prepared by the Kansas Department of Agriculture, Administrative Services, October 30, 2009. http://agriculture.ks.gov/docs/default-source/dwr-water-appropriation-documents/precip7100_3in.pdf.

annual precipitation in Region 8 (the two eastern tiers) is roughly double the rainfall in Region 1, ranging from 36 inches to over 45 inches.[20]

Table 2 is taken from the 2011 Report.[21] The fact that per capita water use declines from west to east is the most-apparent conclusion from this data.

Table 2

AVERAGE GPCD USE FOR KANSAS PUBLIC WATER SUPPLIERS BY REGION AND SIZE, 2007–2011

Region	Year					Average
	2007	2008	2009	2010	2011	
1	272	273	228	259	282	263
2	245	241	199	224	237	229
3	241	229	195	223	229	223
4	170	168	156	168	196	172
5	149	142	139	137	149	143
6-ML	135	133	131	139	151	138
6-S	126	121	117	114	134	122
7-L	135	128	124	134	140	132
7-M	101	96	94	98	103	98
7-S	92	89	87	87	93	90
8-L	130	123	122	125	130	126
8-M	98	92	89	93	94	93
8-S	82	81	78	79	81	80
Kansas	119	115	109	114	122	116

[20] *Id.* There are two small areas, one in northwest Brown County and the other in eastern Doniphan County, that dip below 36 inches per year.

[21] 2011 Report, p. 4.

b. Per capita use by large Kansas utilities is much higher than small utilities

For the period 2007–2011, large water utilities in Region 8 used 135% of the quantities used by medium utilities in that Region and 158% of the quantity used by small utilities. In Region 7, large utilities needed between 135% and 147% as much water as medium and small utilities.

Table 3		
Region	Average GPCD from Table 1	Percent of 7-L and 8-L
7-Large	132	132 GPCD is 135% of use in 7-Medium and 147% of use in 7-Small Communities
7-Medium	98	
7-Small	90	
8-Large	126	126 GPCD is 136% of use in 8-Medium and 158% of use in 8-Small Communities
8-Medium	93	
8-Small	80	

Table 4 summarizes the comparison of water use in Hays from 1993 through 2012 to the average use in Regions 5, 6-ML, 7-L, and 8-L for that same period.[22] Conservation measures enacted by the City of Hays resulted in average water use that is 14.9%–42.7% lower than large users in all of the Regions, which is in direct contrast to the overall statewide trend that per capita water needs decline as average rainfall increases from west to east.

Table 4									
	Hays GPCD 1993–2012	Region 5 Ave. GPCD 1993–2012	Percent Below Region Ave.	Region 6-ML Ave. GPCD 1993–2012	Percent Below Region 6- ML Ave.	Region 7-L Ave. GPCD 1993–2012	Percent Below Region 7-L Ave.	Region 8-L Ave. GPCD 1993-2012	Percent Below Region 8-L Ave.
Highest	112	151.35	-26.0%	148.35	-24.5%	141.4	-20.8%	131.65	-14.9%
Lowest	85		-43.8%		-42.7%		-39.9%		-35.4%
Ave.	97		-35.7%		-34.4%		-31.2%		-26.1%

c. Other than Hays, larger cities in Region 5 need more water than smaller cities

Even though Hays is the only "large" user in Region 5 and "large" utilities need between 135% and 158% more water than medium and small users, its average use is far lower than the average water use in its own Region 5. In fact, as shown in Tables 5,

[22] Data was extracted from several Annual Reports that were provided by DWR.

6, and 7, the average GPCD water use in Hays from 2007 through 2011 is lower than any of the Region 5 utilities that would be considered "medium" and lower than all but 5 of the 23 "small" providers.

Tables 5, 6, and 7 show the GPCD for all cities in Region 5 for which 2010 population figures were available, sorted by size.[23] Average need from 2007–2011 for "medium" sized cities was 153.5 GPCD; "small" cities averaged 128.5 GPCD. In Regions 7 and 8, large utilities need 135% of the water used by medium utilities and 152% of the water needed by small utilities. If Hays had access to plentiful water, it would normally use in the range of 200 GPCD instead of just 93 GPCD.[24]

Table 5

	2010 Population	Region	2007	2008	2009	2010	2011	Average
Hays	**20,510**	**5**	**96**	**92**	**85**	**91**	**99**	**93**

Table 6

Cities with population between 500 and 9,999

	2010 Population	Region	2007	2008	2009	2010	2011	Average
Larned	4054	5	211	203	176	200	225	203
Phillipsburg	2581	5	195	130	121	114	139	140
Ellis	2062	5	90	93	91	97	101	94
Plainville	1903	5	134	123	130	146	149	136
Kinsley	1457	5	119	128	121	118	126	122
La Crosse	1342	5	127	123	125	139	145	132
Stockton	1329	5	149	114	98	101	115	115
Victoria	1214	5	107	107	95	105	110	105
Coldwater	828	5	178	165	189	208	226	193
Greensburg	777	5	223	173	242	259	309	241
Haviland	701	5	169	185	154	154	174	167
Logan	589	5	172	173	134	167	174	164
Protection	514	5	176	180	194	175	196	184
Average Annual GPCD			**157.7**	**145.9**	**143.8**	**152.5**	**168.4**	**153.5**

[23] *See* http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml#none. Data were not available for the Rural Water Districts, the City of Belvidere, or "Hays City Suburban."

[24] 153.5 GPCD used by medium sized utilities in Region 5 times 135% equals 207 GPCD; 128.5 GPCD used by small utilities in Region 5 times 152% equals 195 GPCD.

Table 7								
Region 5 Cities with population below 500								
	2010 Population	Region	2007	2008	2009	2010	2011	Average
Lewis	451	5	117	138	114	136	154	132
Otis	282	5	204	184	136	152	268	189
Palco	277	5	140	118	106	126	111	120
Agra	267	5	103	89	91	101	115	100
Bison	255	5	0	78	94	89	74	84
Mullinville	255	5	211	266	206	242	266	238
Burdett	247	5	151	191	134	169	178	165
Schoenchen	207	5	0	0	0	0	72	72
Offerle	199	5	152	101	135	158	183	146
McCracken	190	5	72	78	77	82	67	75
Kirwin	171	5	98	90	82	146	125	108
Rush Center	170	5	110	116	135	140	155	131
Rozel	156	5	156	161	150	230	238	187
Woodston	136	5	222	255	250	157	92	195
Long Island	134	5	196	180	210	193	202	196
Prairie View	134	5	144	159	123	107	133	133
Damar	132	5	0	0	0	119	100	110
Liebenthal	103	5	75	78	66	63	78	72
Glade	96	5	123	106	99	124	69	104
Belpre	84	5	110	109	107	130	174	126
Timken	76	5	125	69	47	59	67	73
Alexander	65	5	100	78	93	114	99	97
Speed	37	5	99	89	129	87	109	103
Average Annual GPCD			**117.7**	**118.8**	**112.3**	**127.1**	**136.0**	**128.5**

d. Water use depends on access to adequate sources

One cause of the disparity in water use in Region 5 is distance from an adequate water source. Utilities in Region 5 that use the most water are located near sources that are adequate for the population served. The following table shows the average GPCD for 2007 through 2011 for the 12 communities in Region 5 that use the most water. In each case, there is an abundant supply of water nearby.

Table 8			
City	Average GCPD 2007–2011	2010 Population	Assumed Source
Greensburg	241	777	High Plains Aquifer
Mullinville	238	255	High Plains Aquifer
Larned	203	4054	High Plains Aquifer and the Arkansas River alluvium
Long Island	196	134	Prairie Dog Creek alluvium and High Plains Aquifer
Woodston	195	136	Alluvium of the South Fork of the Solomon River
Coldwater	193	828	High Plains Aquifer and the Calvary Creek alluvium
Otis	189	282	Walnut Creek alluvium
Rozel	187	156	Alluvia of the Pawnee River and Sawmill Creek and the High Plains Aquifer
Protection	184	514	Alluvia of the Cimarron River and Kiowa Creek
Haviland	167	701	High Plains Aquifer
Burdett	165	247	Pawnee River alluvium and possibly the High Plains Aquifer
Logan	164	589	Alluvium of the North Fork of the Solomon River

At the other end of the spectrum are the 12 communities in Region 5 that use the least amount of water. They are all in Ellis, Phillips, or Rush Counties, where both surface and groundwater are scarce.

Table 9			
City	County	Average GCPD 2007–2011	2010 Population
Victoria	Ellis	105	1214
Glade	Phillips	104	96
Speed	Phillips	103	37
Agra	Phillips	100	267
Alexander	Rush	97	65
Ellis	Ellis	94	2,062
Hays	Ellis	93	20,510
Bison	Rush	84	255
McCracken	Rush	75	190
Timken	Rush	73	76
Schoenchen	Ellis	72	207
Liebenthal	Rush	72	103

7. Reasonable per capita water use-City of Hays

At a minimum, Hays is entitled to plan future water use based on the Region 5 average of 143 GPCD; but in fairness, the average should be increased because communities with populations below 500 are included in that average. When those small communities are excluded from the calculation, Hays should be able to plan based on at least 153.5 GPCD.

Hays' estimated cost to produce 1,000 gallons of water from current sources is about $1.60. Water transferred from the Ranch will cost more, and could approach $5.00 per 1,000 gallons. This high cost will undoubtedly deter waste by water consumers in Hays.

8. Reasonable per capita water use-City of Russell

Russell's reported per capita water use falls near the middle of medium-large cities in Region 6. But this presents an inaccurate picture of water use in Russell.

The City of Russell has two principle sources of water: Big Creek surface water and groundwater from the Pfeifer well field. Big Creek surface water is transported in a 16-inch line from the Big Creek pump station to a surface water treatment plant in Russell 22 miles away. Water from each of several wells in the Pfeifer well field flows into a common "collector well."[25] Water is then pumped out of the collector well and transported in an 18-inch line to an electrodialysis reversal water treatment plant ("EDR plant") in Russell. Both lines are shown on Exhibit C to the June 25, 2015 Cover Letter transmitting the original Change Applications.

Each of the Pfeifer wells is metered, as is the water withdrawn from the collector well and pumped to Russell. There are significant losses from the collector well but that water is not lost. All of the wells are located near the Smoky Hill River as shown on Exhibit C to the June 25, 2015 Cover Letter transmitting the original Change Applications. They draw water from the alluvium, and losses from the collector well return to the alluvial aquifer.

Table 10 shows the actual GPCD for the City of Russell from 2007–2014. After removing the quantity of water lost in the collector well, the average water use in Russell for this period was just 102.8 GPCD. At the depth of the drought in 2013, usage dipped to 78.6 GPCD.

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[25] The "collector well" was originally designed as a Ranney collector well. It is now used to collect water from the well field and as a pump station.

Table 10 (1000s)								
	2007	2008	2009	2010	2011	2012	2013	2014
Raw Surface Water from Big Creek	233,585	151,361	233,548	235,666	186,446	119,504	125,836	173,561
Raw Groundwater from Pfeiffer Wells	71,747	172,019	142,242	162,334	179,291	267,262	119,129	153,728
Total Raw Water Diverted	305,331	323,380	375,790	398,000	365,737	386,766	244,965	327,288
Metered Quantity Diverted from Pfeiffer Collector Well	57,002	122,335	97,797	115,894	127,695	180,049	87,758	109,662
Raw Surface Water from Big Creek	233,585	151,361	233,548	235,666	186,446	119,504	125,836	173,561
Untreated Water Delivered to Russell Treatment Plants	290,587	273,696	331,345	351,560	314,141	299,553	213,594	283,223
Difference between Pfeifer Wells and Quantity from Pfeifer Collector Well	14,745	49,684	44,445	46,440	51,596	87,213	31,371	44,066
Water Sold to Industrial, Stock, and Bulk Customers	138,500	115,315	144,277	147,069	133,661	138,513	85,176	105,295
Water Sold to Residential and Commercial Customers	127,625	122,388	123,343	124,806	131,012	119,999	108,382	108,743
Other Metered Water	18,710	19,189	18,907	19,786	22,150	23,421	17,677	19,944
Total Metered Water	284,835	256,892	286,527	291,661	286,823	281,933	211,235	233,982
Total Quantity Not Accounted For	20,496	66,488	89,263	106,339	78,914	104,833	33,730	93,306
Water Loss in Collector Well	14,745	49,684	44,445	46,440	51,596	87,213	31,371	44,066
Actual Quantity Not Accounted For	5,752	16,804	44,818	59,899	27,318	17,620	2,359	49,241
Percent Total Raw Water Diverted Not Accounted For	1.9%	5.2%	11.9%	15.1%	7.5%	4.6%	1.0%	15.0%

Table 10 (1000s)								
	2007	2008	2009	2010	2011	2012	2013	2014
Population	4522	4514	4506	4498	4490	4482	4474	4475
Residential, Commercial, Other Metered, and Unaccounted for Water	152,087	158,381	187,068	204,491	180,480	161,040	128,418	177,928
GPCD	92.14	96.13	113.74	124.56	110.13	98.44	78.64	108.93

As shown in Table 11, the actual per capita water use places Russell very near the bottom of the list for medium to large cities in Region 6ML.

Table 11							
		2007	2008	2009	2010	2011	Ave.
Attica	6ML	179	215	200	245	272	222
Mitchell Co. RWD #02	6ML	215	190	193	197	193	198
Pratt	6ML	184	192	187	203	210	195
Lyons	6ML	189	180	161	173	253	191
Medicine Lodge	6ML	201	199	164	179	180	185
Mankato	6ML	171	170	205	189	184	184
Kiowa	6ML	166	184	172	163	157	168
Downs	6ML	141	160	166	160	149	155
Smith Center	6ML	138	146	162	158	168	154
South Hutchinson	6ML	156	130	155	151	173	153
Osborne	6ML	157	159	136	124	144	144
St. John	6ML	136	135	123	154	166	143
Little River	6ML	136	119	142	158	149	141
Russell (reported)	6ML	107	133	151	166	146	141
Russell Co. RWD #03	6ML	130	127	121	162	153	139
Anthony	6ML	156	128	130	131	139	137
Harper	6ML	129	119	121	139	165	135
Lincoln Center	6ML	141	138	142	136	114	134
Claflin	6ML	131	117	123	134	158	133
Hutchinson	6ML	126	110	111	165	155	133
Rice Co. RWD #01	6ML	122	168	na	109	133	133
Macksville	6ML	122	132	133	140	135	132
Pretty Prairie	6ML	130	125	136	129	142	132
Haven	6ML	137	120	119	124	140	128
Ellsworth	6ML	132	128	130	127	117	127
Stafford	6ML	133	118	114	121	151	127
Buhler	6ML	117	111	120	130	143	124
Great Bend	6ML	131	130	120	117	122	124
Kingman	6ML	114	108	114	129	131	119
Wilson	6ML	108	104	106	110	109	107
Russell (actual)		92	96	114	125	110	107
Ellinwood	6ML	101	100	97	108	125	106
Hoisington	6ML	97	98	94	98	113	100
Beloit	6ML	90	80	84	84	126	93
Sterling	6ML	92	82	82	95	107	92
Nickerson	6ML	67	86	69	68	84	75
Barton Co. RWD #02	6ML	47	57	37	45	60	49

At a minimum, Russell is entitled to plan future water use based on the Region 6ML average of 138 GPCD excluding any quantity lost to the aquifer in the Pfeifer collector well.[26]

II. Conclusion

The Cities of Hays and Russell respectfully ask DWR to contingently approve the Change Applications on the terms and conditions requested in the Change Applications as amended, this letter, and in the negotiated Master Order contingent on the occurrence of the contingencies in the *Effective Date and Expiration Date* Section of the Master Order.

Very truly yours,

FOULSTON SIEFKIN LLP

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[26] *See* Table 2, *supra*.