

**MAIZE CITY COUNCIL WORKSHOP**  
**March 31, 2014 @ 6PM**  
**(Meal @ 5:30pm)**

1. **Goal and purpose:**
  - **This is an informal meeting of the Maize Council and Staff for discussion and communications regarding the following items:**
  
2. **Opening Comments:**
  - **Mayor**
  - **Council Members**
  - **Staff**
  
3. **Discussion Items:**
  - - a. **Utility Expansion Cost Options Report**
      - **Chris Bohm & Ken Lee (Ruggles & Bohm)**
  
    - b. **Five Year Financial Plan**
      - **Staff & Council discussion**
  
    - c. **Utility Rates Review**
      - **Staff & Council discussion**
  
4. **Notes for Meeting:**
  - a. **Related information for the above discussion items will be provided, as soon as possible, via e-mail.**
  
  - b. **Any Council member requesting a hard copy - notify staff.**
  
  - c. **Meal will be available at 5:30pm**
  
  - d. **This is a workshop and no official action will be taken**
  
5. **Adjournment:**
  - a. **Estimated at 8pm**

**WATER AND SEWER MAIN EXTENSION  
RATE AND ASSESSMENT STUDY  
FOR  
CITY OF MAIZE, KANSAS**

March 26, 2014



# Water and Sewer Rate Study

## City of Maize, Kansas

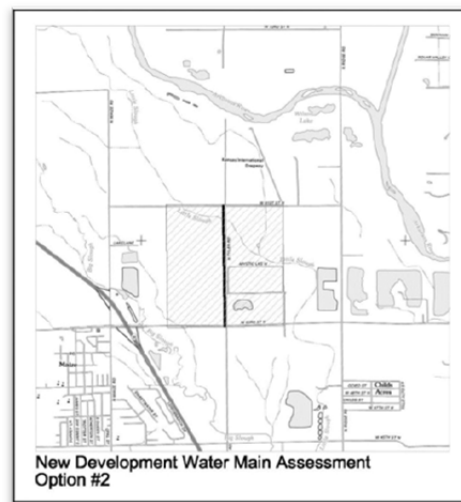
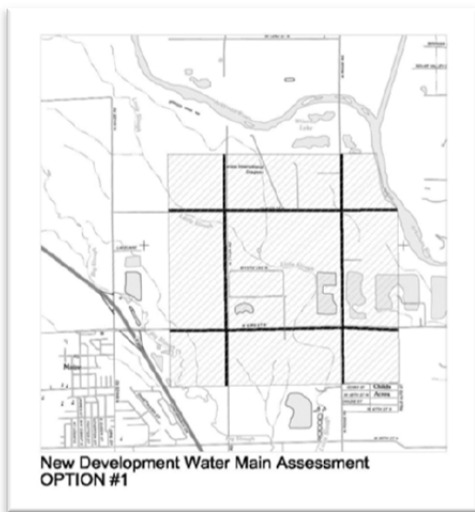
February 2014

### Purpose

The study was performed with the purpose of establishing a policy on the assessment of water and sewer main improvements to the citizens that are served by them. Evaluations were done for both developed areas that are not currently served by city water and for proposed developments at the city's periphery. The study will outline different methodologies for spreading the cost of the project to users, provide information on the issues that must be considered in creating the petitions and benefit districts for the projects and factors that should be considered when determining if the proposed extensions should be approved.

### New Development - Water

Two different development options were considered for new development. Option 1 looked at the cost of building all the arterial water mains necessary to support one square mile of land and the nearest half mile around it to assess the cost of all potential properties within ½ mile of a main. Option 2 looked at the cost of constructing one mile of water main along a single road and the cost for the land within ½ mile of that main. Option 1 is the most thorough and accounts for all mains that are likely to be considered. The configuration for Option 1 is drawn for cost determination purposes and may not reflect final city limits or service areas. Option 2 would be favored by developers because they would pay only for the minimum amount for mains necessary to support their development. Option 2 is problematic in that future mains along other arterials adjacent to a property wouldn't be assessed and could result in higher costs for other property owners or the City of Maize.



The cost for water mains in new areas under Option 1 is approximately 2.4 cents per square foot. Under option 2, the cost drops down to approximately 1.3 cents per square foot. The City of Wichita charges

2.6 cents per square foot. Because there are many situations where properties within a square mile cannot be assessed for water mains (already developed, no desire to develop, flood plains, agricultural uses or geography), we recommend matching the 2.6 cent per square foot cost that the City of Wichita assesses for new mains. While the 1.3 cent per square foot cost of option #2 is attractive for developers, it would put a significant burden on the city to install infrastructure with limited means to recover the other portion of the cost.

Another factor to consider for water mains serving new development is the means of assessment. It is typical to require properties desiring water service to sign a petition agreeing to pay for the service. We recommend using that practice. A consideration within the petition agreements is to determine whether the property owner would be required to petition their entire property upfront or only the phases being developed at a particular time. It can be a significant burden on the developer to require the entire assessment to occur at one time and may discourage development. We recommend that two petitions be prepared for a new development. One petition will cover the currently planned phase of a development that will be implemented at the time of construction. The second petition would cover any undeveloped portions of the project that would only be activated in the event that a developer was not moving forward with the project, allowing the city the ability to assess that property in the future. As other phases were developed, the owner would submit revised petitions as necessary.

For new development, it is important to remember that the calculations for the study were for the gross area of a project, including road rights of way, ponds and reserves. Developers and their engineers will need to use gross areas in their calculations of the assessment for their petitions. Utilizing lot areas only would reduce the assessment by up to 40% unless the price per square foot is adjusted. Assessing by gross area is the fairest means for both large and small lot developments. Although calculations for main benefit fee cost are to be done by gross area, we recommend that the per lot assessments be done on an equal share basis within the development but allow the developer the option to allocate additional shares to larger lots or non-residential lots at their discretion. Utilizing equal shares simplifies the marketing of the property to potential buyers.

### **Project Viability Determination**

One important stipulation that should be included in any ordinance for water main extensions is that all such requests must be submitted to the City Engineer for pre-approval prior to the submittal of any petitions. Factors that should be considered in any request include the following:

- The percent of area within ½ mile of main that have signed the petition request
- Geographical features that might affect cost
- Probability of project encouraging other development in area
- Developer's project resume
- Available bonding capacity of the city
- Projected development timeline to completion

**New Development – Sewer**

Most of the same issues and concerns that exist for water are applicable to sanitary sewer main extensions to serve new areas. Using the same methodology for sewers that was used for Option 2 of the water main, the minimum amount to charge per square foot is 4 cents per square foot. This is less than the 5 cents per square foot that is currently charged by the city of Wichita. Given that there will be properties that will not be serviced by sewer due to pre-existing on-site services as well as properties that will be unavailable due to topography limiting the availability of gravity service, we recommend using the 5 cents per square foot rate that is charged by the City of Wichita.

**Infill Scenario - Water**

For the purpose of analyzing costs for infill, the area along Maize Road from the south side of K-96 to 61<sup>st</sup> Street North was evaluated. There are 34 existing parcels within ½ mile of the potential water main and one existing side street with approximately 2 acre lots that would be in the benefit district for the project. Typical construction costs were assigned to items identified for construction. Three options were considered for evaluating the project along with four means of assessment.

were considered for evaluating the project along with four means of assessment.



**INFILL WATER MAIN ASSESSMENT**

One key difference between a new development scenario and the infill scenario is the potential for the need to construct not only mains along arterial roadways, but smaller mains along developed side streets. That situation exists on this project because of Lakeland Drive. Scenario #1 assigned the cost for the arterial main to all of the lots served in the area but assessed the cost of the main to serve Lakeland Drive to only lots directly served by the main. Scenario #2 assessed the costs of all mains (arterial and otherwise) to all of the lots within the project. This area has one unusual challenge in the fact that K-96 highway separates these properties from the rest of the City of Maize. The cost of boring under the highway represents an expense that would not normally occur. Because of that, Scenario #3 assumes that the city of Maize would bear the cost of that work with no compensation from property owners and all of the remaining costs will be split amongst all of the lots in the benefit

district. Please see Appendix B for information and calculations pertaining to the infill portion of the study.

The estimated cost of the project was determined using typical construction costs for mains, projected easement acquisition costs, contingencies and typical costs associated with the design and administration of a construction project.

### **Means of Assessment**

After determining a preliminary estimate of cost for the work, several means of spreading the assessments were considered for each of the scenarios listed above:

- 1) Equal Shares – each property, regardless of size would pay the same amount. This option is good because each user pays the same amount. The downside to this option is that large lots with potential for redevelopment pay the same as a smaller residential lot with no future development options. Smaller property owners may not want to sign the petition due to the relatively high cost for the service.
- 2) Square Foot – each property would pay an equal amount per square foot, with larger properties assuming a larger cost. This option factors in the size of lots and their potential for redevelopment but it puts an inordinate amount of burden on large lots while the smallest lots would be assessed disproportionately low costs for water service. The high cost for larger lots will make it less likely for property owners to agree to sign a petition.
- 3) Weighted Shares – properties would be assigned shares based on size with a minimum size threshold established for one share. This option ensures that smaller lots pay an equitable amount while still making larger properties with redevelopment potential bear a more appropriate burden. This scenario still has the potential to discourage larger property owners from willing participation in the project.
- 4) Equal shares with City Assistance – In this option, the city would pay 50% of the cost of the project with city at large funds and the property owners would pay equal shares on the other 50%. In the event that any new lots are created via lot splits or platting, the newly created lots would be assessed a 2.6 cent per square foot water main assessment fee to help recover the money input by the city. The upside to this option is that it lowers the cost to an amount that is equitable for all owners initially and allows the city to recover a portion of expenses if redevelopment occurs. The downside is that it does require cash from the city's funds and there is no guarantee as to when that money will be recovered.

For the in-fill scenarios being evaluated, equal shares with city assistance is the recommended option. It represents a good compromise in price for property owners while still providing opportunities for the city to recover some of the capital investment in the long term through redevelopment. In a situation where there are no lots over ½ acre in size and redevelopment is not an option, we recommend utilizing equal shares. The following paragraphs include a brief commentary on each scenario and a table outlining the costs associated with the differing assessment methods.

### **In-Fill Scenario #1 Review**

The first option of the study evaluated the costs of the project by allocating an equal share of the arterial main to all 34 properties in the benefit district but the cost of the side mains only to the lots

being served. This is very similar to the normal assessment that would occur in new growth areas. However, due to the relatively large size of the lots on Lakeland Drive, this results in a significant disparity in the cost for lots on Lakeland Drive. Lots on Lakeland drive would pay 50% to 100% more for service than similarly sized lots on the arterial for the same water service. Because of these unusually high costs, we do not recommend this means of spreading costs for infill projects.

Assessment Method	Small Lot Cost	Large Lot Cost	Notes
Equal Share	\$14,300	\$9,400	Small lots on arterial paid smaller amount.
Square foot	\$800-8,800	\$11,200-60,000	
Weighted Share	\$4,300-9,200	\$12,900-35,000	
Equal Share w/ City Assistance	\$7,150	\$4,713	Small lots on arterial paid smaller amount.

**In-Fill Scenario #2 Review**

Scenario #2 spread the costs of all mains to all lots. When utilizing the “equal shares” means of assessment, the cost per lot is \$10,900. The cost per square foot is \$0.045/sf which is reasonable in terms of impact but creates a significant disparity in the assessment per lot as discussed above. When looking at weighted shares, the fee for smaller lots is approximately \$5000 which is reasonable, but as discussed under the assessment options above, it still places significant burden on larger property owners which would prompt them to resist participation in the project. Utilizing equal shares with the City of Maize bearing 50% of the initial cost results in a cost per lot of \$5,450. It will be important for any redevelopment to pay an impact fee of \$0.026 per square foot to help the city recover the cost of that assistance.

Assessment Method	Small Lot Cost	Large Lot Cost	Notes
Equal Share	\$10,900	\$10,900	
Square foot	\$1,000-4,500	\$10,000-70,000	
Weighted Share	\$5,008	\$10,000-40,000	Lake area not included in share weighting.
Equal Share w/ City Assistance	\$5,450	\$5,450	

**In-Fill Scenario #3 Review**

Scenario #3 spreads the costs of all mains to all lots but the city pays for unusual expenses like those associated with crossing K-96. Another example would be a location that required directional drilling or boring past a floodplain or other undevelopable area. Although higher than normal, this scenario provides costs that might be acceptable to property owners with equal share assessments. Using weighted shares, the price is very reasonable for smaller lot owners. There are still potential problems for the 8 larger property owners that own approximately 57% of the land in the benefit district. Another issue is that there would be no mechanism in place to recover the initial assistance other than the benefit gained from providing water to the new users.

<b>Assessment Method</b>	<b>Small Lot Cost</b>	<b>Large Lot Cost</b>	<b>Notes</b>
Equal Share	\$7,764	\$7,764	
Square foot	\$700-3,500	\$10,000-49,000	
Weighted Share	\$3,567	\$7,000-28,000	

**Final In-fill Water Main Scenario Recommendations**

As mentioned above, the means for determining the assessment will need to be evaluated for each in-fill project. Projects with a significant difference in lot sizes that have development potential can be provided service with city assistance with the knowledge that most, if not all, of the cost will be recovered during redevelopment of larger lots. Projects with limited redevelopment potential should be done with equal shares and the minimum amount of city subsidy since recovering those costs will be difficult in the future.

We recommend utilizing a petition process to initiate the construction of projects of this type. Following established procedures for petitions reduces the likelihood of litigation relating to proposed new work. Inviting affected property owners to a workshop would be an effective way to inform them of the expected costs and impacts of the project.

**Infill Sewer**

Most of the issues described above will impact the ability to bring sanitary sewer into an infill area. In general, infill lots will have an alternate sewage treatment option in place (lagoon, lateral fields, etc.) and it may be problematic to find property owners willing to absorb the cost of the extensions. Our preliminary estimate of cost is approximately \$12,000 per lot if spread equally. We would recommend equal shares with city assistance as the preferred alternative for funding the work with the hope that redevelopment would allow the city to recover the initial subsidy over time. A rate of 5 cents per square foot of redeveloped property is the rate we recommend.

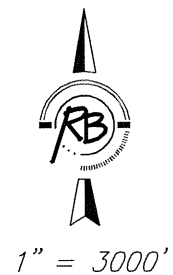
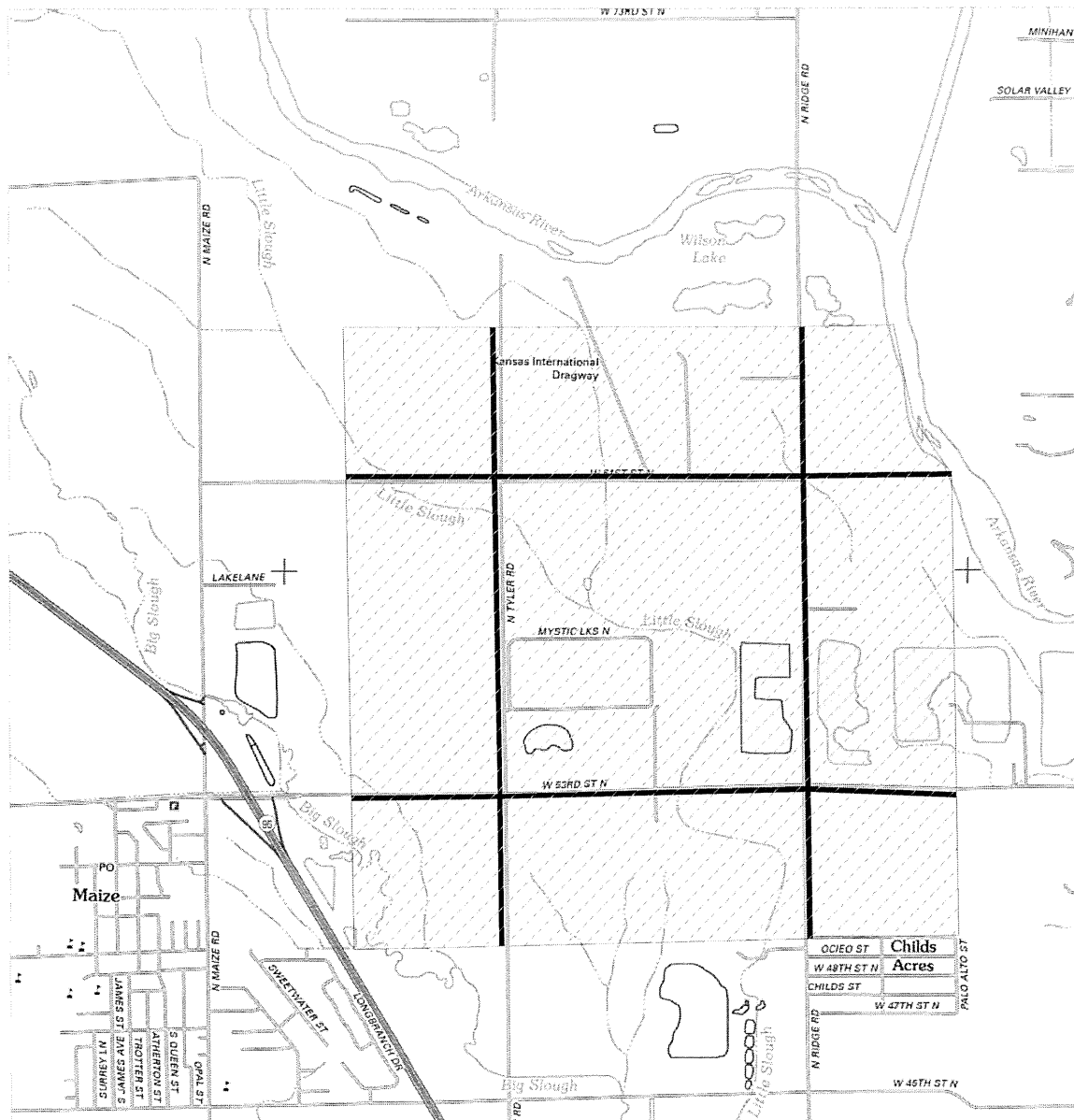


# **Appendix A**

## **New Development Calculations**

**And**

**Exhibits**



New Development Water Main Assessment  
**OPTION #1**  
 MAIZE, SEDGWICK COUNTY, KANSAS



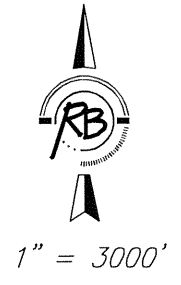
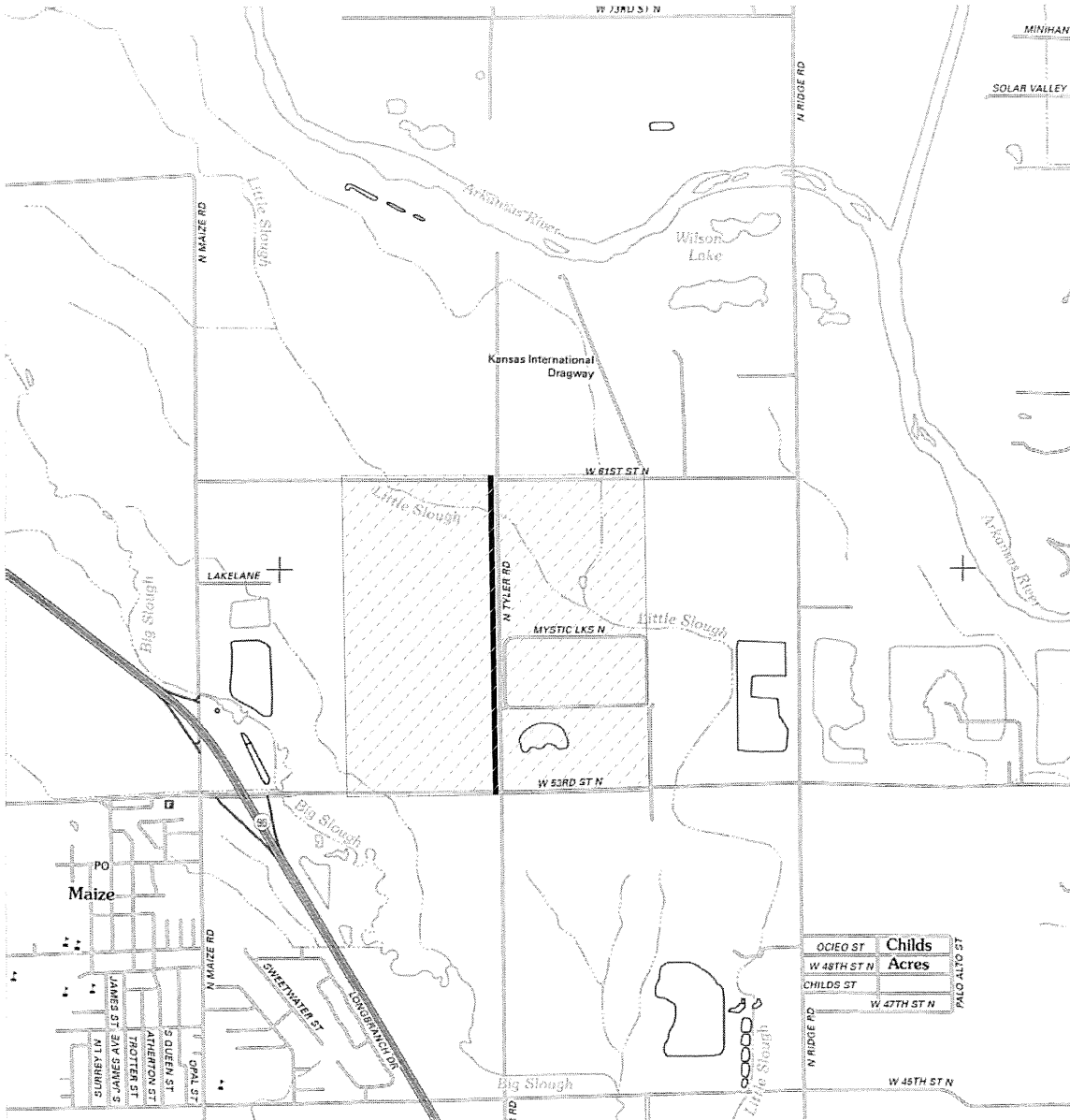
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	<u>Quantity</u>		<u>Unit Price</u>	<u>Total</u>
<b>Water Items-Scenario 1</b>				
WL Pipe 12"	21200	lf	40.00	848,000.00
Blowoff Assembly	6	ea	1,000.00	6,000.00
Gate Valve 12"	14	ea	2,000.00	28,000.00
Fire Hydrant Assembly	21	ea	2,800.00	58,800.00
Construction Cost				940,800.00
10% Contingency				94,080.00
Construction Total				1,034,880.00
30% Administration				310,464.00
Project Total				1,345,344.00
Area		sq. ft		55,000,000
Cost (per sq. ft.)				0.024

**Sanitary Sewer Items**

SS Pipe 12"	7950	lf	75.00	596,250.00
SS MH	23	ea	5,000.00	115,000.00
8" Stubs	23	ea	1,000.00	23,000.00
Flowable Fill	200	lf	100.00	20,000.00
Site Clearing & Restoration	1	LS	30,000.00	30,000.00
Construction Cost				784,250.00
10% Contingency				78,425.00
Construction Total				862,675.00
30% Administration				258,802.50
Project Total				1,121,477.50
Area		sq. ft		27,878,400
Cost (per sq. ft.)				0.040



New Development Water Main Assessment  
**OPTION #2**  
 MAIZE, SEDGWICK COUNTY, KANSAS



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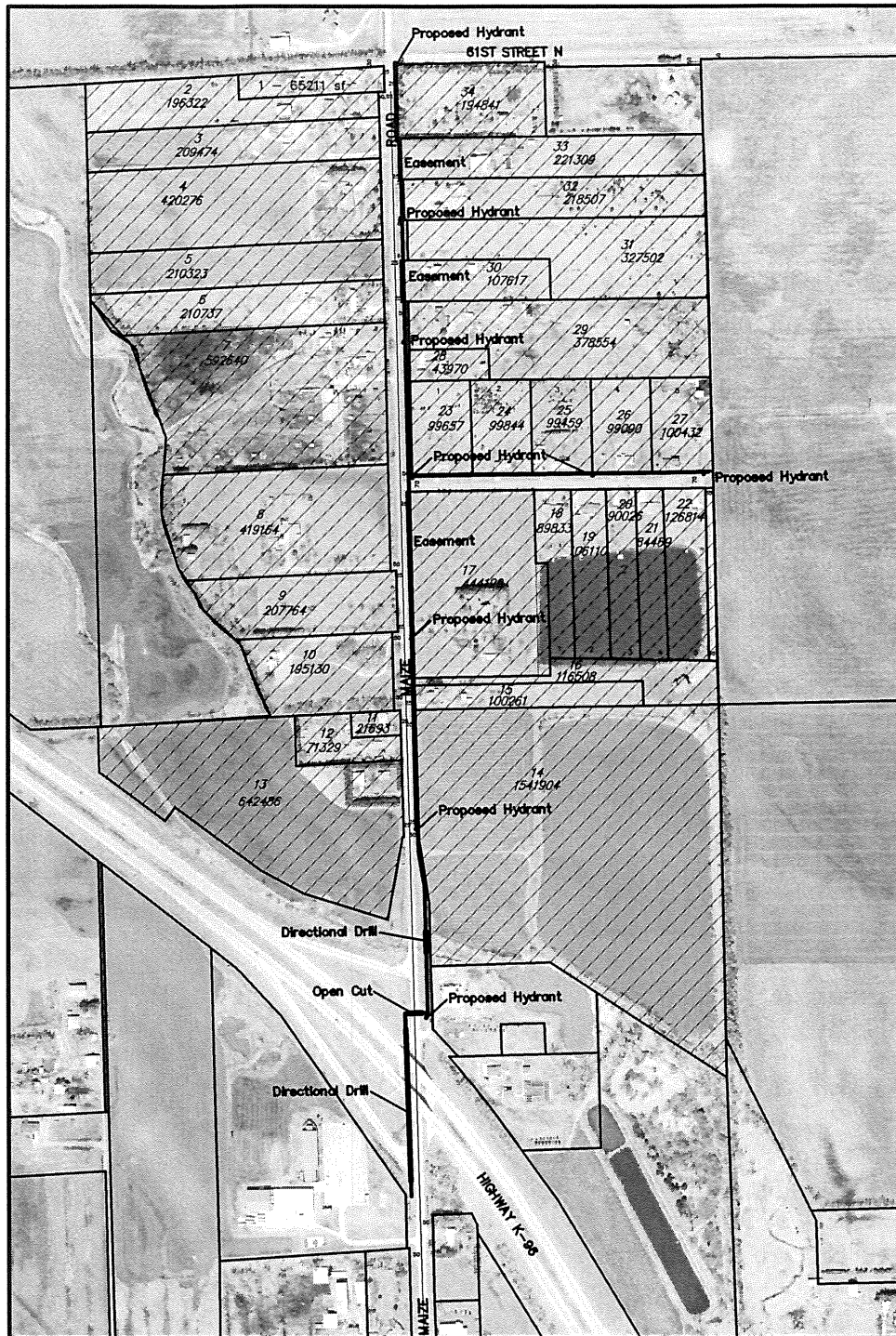
	<u>Quantity</u>		<u>Unit Price</u>	<u>Total</u>
<b>Water Items-Scenario 2</b>				
WL Pipe 12"	5280	lf	40.00	211,200.00
Blowoff Assembly	2	ea	1,000.00	2,000.00
Gate Valve 12"	9	ea	2,000.00	18,000.00
Fire Hydrant Assembly	7	ea	2,800.00	19,600.00
Construction Cost				250,800.00
10% Contingency				25,080.00
Construction Total				275,880.00
30% Administration				82,764.00
Project Total				358,644.00
Area		sq. ft.		27,878,400.00
Cost (per sq. ft.)				0.013

# **Appendix B**

## **Infill Calculations**

**And**

**Exhibits**



1" = 500'

# INFILL WATER MAIN ASSESSMENT MAIZE, SEDGWICK COUNTY, KANSAS



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**Maize Water Rate Study**

**Option #1 - Assess Costs of arterial main to all properties but lateral lines to only properties served**

<b>Water Main Extending Along Maize Road</b>					
<b>Preliminary Estimate of Cost</b>					
<b>Water Items</b>					<b>2/24/2014</b>
Connect to Exist Main		1	LS	\$2,500.00	\$2,500.00
10" PVC		4850	lf	\$25.00	\$121,250.00
Fire Hydrant Assembly		7	ea	\$2,500.00	\$17,500.00
Gate Valve Assembly		3	ea	\$1,000.00	\$3,000.00
Directional Drill		790	lf	\$100.00	\$79,000.00
Site Clearing & Restoration		1	LS	\$11,250.00	\$11,250.00
<b>Construction Subtotal</b>					<b>\$234,500.00</b>
Easement Acquisition		25750	sf	\$0.25	\$3,937.50
Admin., Staking, Insp, Design & Contingincies (35%)					\$82,075.00
<b>Project Total</b>					<b>\$320,512.50</b>

34 Properties Served  
City pays 50%

**\$9,426.84 / Lot**  
**\$4,713.42 / Lot**

Payment for 15 years at 4.0%

**\$34.86 month**

<b>Interior Water Line Lakeland Drive</b>					
<b>Preliminary Estimate of Cost</b>					
<b>Water Items</b>				<b>2/24/2014</b>	
8" PVC	1270		lf	\$20.00	\$25,400.00
Fire Hydrant Asser	2		ea	\$2,500.00	\$5,000.00
Gate Valve Assem	2		ea	\$1,000.00	\$2,000.00
Site Clearing & Re:	1		LS	\$3,750.00	\$3,750.00
<b>Construction Subtotal</b>					<b>\$36,150.00</b>
Admin., Staking, Insp, Design & Contingincies (35%)					\$12,652.50
<b>Project Total</b>					<b>\$48,802.50</b>

10 Properties Served  
City pays 0%

**\$4,880.25 / Lot**  
**\$4,880.25 / Lot**

Payment for 15 years at 4.0%

**\$36.10 month**



**Cost By Square Foot**

<i>Parcel</i>	<i>Area (sf)</i>	<i>Main</i>	<i>Lateral</i>	<i>Total</i>	<i>cost/sf</i>
1	65211	\$2,563		\$2,563	\$0.039
2	196322	\$7,717		\$7,717	\$0.039
3	209474	\$8,234		\$8,234	\$0.039
4	420276	\$16,521		\$16,521	\$0.039
5	210323	\$8,268		\$8,268	\$0.039
6	210737	\$8,284		\$8,284	\$0.039
7	592640	\$23,297		\$23,297	\$0.039
8	419164	\$16,477		\$16,477	\$0.039
9	207764	\$8,167		\$8,167	\$0.039
10	195130	\$7,671		\$7,671	\$0.039
11	21693	\$853		\$853	\$0.039
12	71329	\$2,804		\$2,804	\$0.039
13	642486	\$25,256		\$25,256	\$0.039
14	1541904	\$60,613		\$60,613	\$0.039
15	100261	\$3,941		\$3,941	\$0.039
16	116508	\$4,580		\$4,580	\$0.039
17	444129	\$17,459		\$17,459	\$0.039
18	89833	\$3,531	\$4,403	\$7,934	\$0.088
19	106110	\$4,171	\$5,200	\$9,372	\$0.088
20	90026	\$3,539	\$4,412	\$7,951	\$0.088
21	84469	\$3,320	\$4,140	\$7,460	\$0.088
22	126814	\$4,985	\$6,215	\$11,200	\$0.088
23	99657	\$3,918	\$4,884	\$8,802	\$0.088
24	99884	\$3,926	\$4,895	\$8,822	\$0.088
25	99459	\$3,910	\$4,874	\$8,784	\$0.088
26	99090	\$3,895	\$4,856	\$8,752	\$0.088
27	100432	\$3,948	\$4,922	\$8,870	\$0.088
28	43970	\$1,728		\$1,728	\$0.039
29	378554	\$14,881		\$14,881	\$0.039
30	107617	\$4,230		\$4,230	\$0.039
31	327502	\$12,874		\$12,874	\$0.039
32	218507	\$8,590		\$8,590	\$0.039
33	221309	\$8,700		\$8,700	\$0.039
34	194841	\$7,659		\$7,659	\$0.039
<b>Total Area</b>	<b>8153425</b>	<b>\$320,513</b>	<b>\$48,803</b>	<b>\$369,315</b>	<b>\$0.045</b>

Lateral Area 995774

**Cost By Weighted Share (100,000 sf per share)**

<i>Parcel</i>	<i>Weighted Share</i>	<i>Main</i>	<i>Lateral</i>	<i>Total</i>	
1	1	\$4,331.25		\$4,331	\$0.066
2	2	\$8,662.50		\$8,663	\$0.044
3	2	\$8,662.50		\$8,663	\$0.041
4	4	\$17,325.00		\$17,325	\$0.041
5	2	\$8,662.50		\$8,663	\$0.041
6	2	\$8,662.50		\$8,663	\$0.041
7	6	\$25,987.50		\$25,988	\$0.044
8	4	\$17,325.00		\$17,325	\$0.041
9	2	\$8,662.50		\$8,663	\$0.042
10	2	\$8,662.50		\$8,663	\$0.044
11	1	\$4,331.25		\$4,331	\$0.200
12	1	\$4,331.25		\$4,331	\$0.061

13	6	\$25,987.50		\$25,988	\$0.040
14	8	\$34,650.00		\$34,650	\$0.022 Reduced share due to lake
15	1	\$4,331.25		\$4,331	\$0.043
16	1	\$4,331.25		\$4,331	\$0.037
17	4	\$17,325.00		\$17,325	\$0.039
18	1	\$4,331.25	\$4,880	\$9,212	\$0.103
19	1	\$4,331.25	\$4,880	\$9,212	\$0.087
20	1	\$4,331.25	\$4,880	\$9,212	\$0.102
21	1	\$4,331.25	\$4,880	\$9,212	\$0.109
22	1	\$4,331.25	\$4,880	\$9,212	\$0.073
23	1	\$4,331.25	\$4,880	\$9,212	\$0.092
24	1	\$4,331.25	\$4,880	\$9,212	\$0.092
25	1	\$4,331.25	\$4,880	\$9,212	\$0.093
26	1	\$4,331.25	\$4,880	\$9,212	\$0.093
27	1	\$4,331.25	\$4,880	\$9,212	\$0.092
28	1	\$4,331.25		\$4,331	\$0.099
29	4	\$17,325.00		\$17,325	\$0.046
30	1	\$4,331.25		\$4,331	\$0.040
31	3	\$12,993.75		\$12,994	\$0.040
32	2	\$8,662.50		\$8,663	\$0.040
33	2	\$8,662.50		\$8,663	\$0.039
34	2	\$8,662.50		\$8,663	\$0.044
Main Shares	74	\$320,512.50		\$369,315	\$0.045
Lateral Shares	10				

**Maize Water Rate Study**

**Option #2 - Assess Costs of all water mains and laterals equally**

<b>Water Main Serving Maize Road &amp; Lakeland Drive</b>				
<b>Preliminary Estimate of Cost</b>				
<b>Water Items</b>				<b>2/24/2014</b>
Connect to Exist Main	1	LS	\$2,500.00	\$2,500.00
10" PVC	4850	lf	\$25.00	\$121,250.00
8" PVC	1270	lf	\$20.00	\$25,400.00
Fire Hydrant Assembly	9	ea	\$2,500.00	\$22,500.00
Gate Valve Assembly	5	ea	\$1,000.00	\$5,000.00
Directional Drill	790	lf	\$100.00	\$79,000.00
Site Clearing & Restoration	1	LS	\$15,000.00	\$15,000.00
<b>Construction Subtotal</b>				<b>\$270,650.00</b>
Easement Acquisition	25750	sf	\$0.25	\$5,250.00
Admin., Staking, Insp, Design & Contingincies (35%)				\$94,727.50
<b>Project Total</b>				<b>\$370,627.50</b>

34 Properties Served  
City pays 50%

**\$10,900.81 / Lot**  
**\$5,450.40 / Lot**

Payment for 15 years at 4.0%

**\$40.32 month**

**Cost By Equal Share**

Lots 1-34 \$10,900.81

**Cost By Square Foot**

<i>Parcel</i>	<i>Area (sf)</i>	<i>Main</i>	
1	65211	\$2,964	\$0.045
2	196322	\$8,924	\$0.045
3	209474	\$9,522	\$0.045
4	420276	\$19,104	\$0.045
5	210323	\$9,561	\$0.045
6	210737	\$9,579	\$0.045
7	592640	\$26,939	\$0.045
8	419164	\$19,054	\$0.045
9	207764	\$9,444	\$0.045
10	195130	\$8,870	\$0.045
11	21693	\$986	\$0.045
12	71329	\$8,242	\$0.045

13	642486	\$29,205	\$0.045
14	1541904	\$70,090	\$0.045
15	100261	\$4,558	\$0.045
16	116508	\$5,296	\$0.045
17	444129	\$20,189	\$0.045
18	89833	\$4,084	\$0.045
19	106110	\$4,823	\$0.045
20	90026	\$4,092	\$0.045
21	84469	\$3,840	\$0.045
22	126814	\$5,765	\$0.045
23	99657	\$4,530	\$0.045
24	99884	\$4,540	\$0.045
25	99459	\$4,521	\$0.045
26	99090	\$4,504	\$0.045
27	100432	\$4,565	\$0.045
28	43970	\$1,999	\$0.045
29	378554	\$17,208	\$0.045
30	107617	\$4,892	\$0.045
31	327502	\$14,887	\$0.045
32	218507	\$9,933	\$0.045
33	221309	\$10,060	\$0.045
34	194841	\$8,857	\$0.045
Total Area	8153425	\$370,628	\$0.045

**Cost By Weighted Share (100,000 sf per share)**

<i>Parcel</i>	<i>Weighted Share</i>	<i>Main</i>	
1	1	\$5,008	\$0.077
2	2	\$10,017	\$0.051
3	2	\$10,017	\$0.048
4	4	\$20,034	\$0.048
5	2	\$10,017	\$0.048
6	2	\$10,017	\$0.048
7	6	\$30,051	\$0.051
8	4	\$20,034	\$0.048
9	2	\$10,017	\$0.048
10	2	\$10,017	\$0.051
11	1	\$5,008	\$0.231
12	1	\$5,008	\$0.070
13	6	\$30,051	\$0.047
14	8	\$40,068	\$0.026 Reduced share due to lake
15	1	\$5,008	\$0.050
16	1	\$5,008	\$0.043
17	4	\$20,034	\$0.045
18	1	\$5,008	\$0.056
19	1	\$5,008	\$0.047
20	1	\$5,008	\$0.056

21	1	\$5,008	\$0.059
22	1	\$5,008	\$0.039
23	1	\$5,008	\$0.050
24	1	\$5,008	\$0.050
25	1	\$5,008	\$0.050
26	1	\$5,008	\$0.051
27	1	\$5,008	\$0.050
28	1	\$5,008	\$0.114
29	4	\$20,034	\$0.053
30	1	\$5,008	\$0.047
31	3	\$15,025	\$0.046
32	2	\$10,017	\$0.046
33	2	\$10,017	\$0.045
34	2	\$10,017	\$0.051
Main Shares	74	\$370,628	\$0.045

**Maize Water Rate Study**

**Option #3 - Assess Costs of all water mains and laterals equally**

City pays for directional drilling and unusual costs

<b>Water Main Serving Maize Road &amp; Lakeland Drive</b>				
<b>Preliminary Estimate of Cost</b>				
<b>Water Items</b>				<b>2/24/2014</b>
Connect to Exist Main	1	LS	\$2,500.00	\$2,500.00
10" PVC	4850	lf	\$25.00	\$121,250.00
8" PVC	1270	lf	\$20.00	\$25,400.00
Fire Hydrant Assembly	9	ea	\$2,500.00	\$22,500.00
Gate Valve Assembly	5	ea	\$1,000.00	\$5,000.00
Directional Drill	0	lf	\$100.00	\$0.00
Site Clearing & Restoration	1	LS	\$15,000.00	\$15,000.00
<b>Construction Subtotal</b>				<b>\$191,650.00</b>
Easement Acquisition	25750	sf	\$0.25	\$5,250.00
Admin., Staking, Insp, Design & Contingincies (35%)				\$67,077.50
<b>Project Total</b>				<b>\$263,977.50</b>

34 Properties Served  
City pays 50%

**\$7,764.04 / Lot**  
**\$3,882.02 / Lot**

Payment for 15 years at 4.0%

**\$28.71 month**

**Cost By Equal Share**

Lots 1-34

\$7,764.04

**Cost By Square Foot**

<i>Parcel</i>	<i>Area (sf)</i>	<i>Main</i>	
1	65211	\$2,111	\$0.032
2	196322	\$6,356	\$0.032
3	209474	\$6,782	\$0.032
4	420276	\$13,607	\$0.032
5	210323	\$6,809	\$0.032
6	210737	\$6,823	\$0.032
7	592640	\$19,187	\$0.032
8	419164	\$13,571	\$0.032
9	207764	\$6,727	\$0.032
10	195130	\$6,318	\$0.032
11	21693	\$702	\$0.032
City of Maize, Kansas	71329	\$2,009	\$0.032

13	642486	\$20,801	\$0.032
14	1541904	\$49,921	\$0.032
15	100261	\$3,246	\$0.032
16	116508	\$3,772	\$0.032
17	444129	\$14,379	\$0.032
18	89833	\$2,908	\$0.032
19	106110	\$3,435	\$0.032
20	90026	\$2,915	\$0.032
21	84469	\$2,735	\$0.032
22	126814	\$4,106	\$0.032
23	99657	\$3,227	\$0.032
24	99884	\$3,234	\$0.032
25	99459	\$3,220	\$0.032
26	99090	\$3,208	\$0.032
27	100432	\$3,252	\$0.032
28	43970	\$1,424	\$0.032
29	378554	\$12,256	\$0.032
30	107617	\$3,484	\$0.032
31	327502	\$10,603	\$0.032
32	218507	\$7,074	\$0.032
33	221309	\$7,165	\$0.032
34	194841	\$6,308	\$0.032
Total Area	8153425	\$263,978	\$0.032

**Cost By Weighted Share (200,000 sf per share)**

<i>Parcel</i>	<i>Weighted Share</i>	<i>Main</i>	
1	1	\$5,280	\$0.081
2	1	\$5,280	\$0.027
3	1	\$5,280	\$0.025
4	2	\$10,559	\$0.025
5	1	\$5,280	\$0.025
6	1	\$5,280	\$0.025
7	3	\$15,839	\$0.027
8	2	\$10,559	\$0.025
9	1	\$5,280	\$0.025
10	1	\$5,280	\$0.027
11	1	\$5,280	\$0.243
12	1	\$5,280	\$0.074
13	3	\$15,839	\$0.025
14	8	\$42,236	\$0.027
15	1	\$5,280	\$0.053
16	1	\$5,280	\$0.045
17	2	\$10,559	\$0.024
18	1	\$5,280	\$0.059
19	1	\$5,280	\$0.050
20	1	\$5,280	\$0.059

21	1	\$5,280	\$0.063
22	1	\$5,280	\$0.042
23	1	\$5,280	\$0.053
24	1	\$5,280	\$0.053
25	1	\$5,280	\$0.053
26	1	\$5,280	\$0.053
27	1	\$5,280	\$0.053
28	1	\$5,280	\$0.120
29	2	\$10,559	\$0.028
30	1	\$5,280	\$0.049
31	2	\$10,559	\$0.032
32	1	\$5,280	\$0.024
33	1	\$5,280	\$0.024
34	1	\$5,280	\$0.027
Main Shares	50	\$263,978	\$0.032



Maize Sewer Rate Study

Sewer Main Extending Along Maize Road					
Preliminary Estimate of Cost					
<b>Water Items</b>					2/24/2014
Connect to Exist Main		1	LS	\$2,500.00	\$2,500.00
10" PVC		3900	lf	\$35.00	\$136,500.00
8" PVC		1300	lf	\$20.00	\$26,000.00
Manhole		16	ea	\$3,000.00	\$48,000.00
Service		34	ea	\$2,000.00	\$68,000.00
Site Clearing & Restoration		1	LS	\$25,000.00	\$25,000.00
<b>Construction Subtotal</b>					<b>\$306,000.00</b>
Easement Acquisition		35000	sf	\$0.25	\$8,750.00
Admin., Staking, Insp, Design & Contingencies (35%)					\$107,100.00
<b>Project Total</b>					<b>\$421,850.00</b>

34 Properties Served  
City pays 50%

**\$12,407.35 / Lot**  
**\$6,203.68 / Lot**

Payment for 15 years at 4.0%

**\$45.89 month**

**Cost By Equal Share**

Lots 1-34 \$12,407.35

**Cost By Square Foot**

<i>Parcel</i>	<i>Area (sf)</i>	<i>Main</i>	<i>Total</i>	<i>cost/sf</i>
1	65211	\$3,374	\$3,374	\$0.052
2	196322	\$10,158	\$10,158	\$0.052
3	209474	\$10,838	\$10,838	\$0.052
4	420276	\$21,745	\$21,745	\$0.052
5	210323	\$10,882	\$10,882	\$0.052
6	210737	\$10,903	\$10,903	\$0.052
7	592640	\$30,663	\$30,663	\$0.052
8	419164	\$21,687	\$21,687	\$0.052
9	207764	\$10,750	\$10,750	\$0.052
10	195130	\$10,096	\$10,096	\$0.052
11	21693	\$1,122	\$1,122	\$0.052
12	71329	\$3,690	\$3,690	\$0.052
13	642486	\$33,242	\$33,242	\$0.052
14	1541904	\$79,777	\$79,777	\$0.052
15	100261	\$5,187	\$5,187	\$0.052
16	116508	\$6,028	\$6,028	\$0.052
17	444129	\$22,979	\$22,979	\$0.052
18	89833	\$4,648	\$4,648	\$0.052
19	106110	\$5,490	\$5,490	\$0.052
20	90026	\$4,658	\$4,658	\$0.052
21	84469	\$4,370	\$4,370	\$0.052
22	126814	\$6,561	\$6,561	\$0.052

23	99657	\$5,156	\$5,156	\$0.052
24	99884	\$5,168	\$5,168	\$0.052
25	99459	\$5,146	\$5,146	\$0.052
26	99090	\$5,127	\$5,127	\$0.052
27	100432	\$5,196	\$5,196	\$0.052
28	43970	\$2,275	\$2,275	\$0.052
29	378554	\$19,586	\$19,586	\$0.052
30	107617	\$5,568	\$5,568	\$0.052
31	327502	\$16,945	\$16,945	\$0.052
32	218507	\$11,305	\$11,305	\$0.052
33	221309	\$11,450	\$11,450	\$0.052
34	194841	\$10,081	\$10,081	\$0.052
Total Area	8153425	\$421,850	\$421,850	\$0.052

Lateral Area 995774

**Cost By Weighted Share (100,000 sf per share)**

Parcel	Weighted Share	Main	Lateral	Total	
1	1	\$5,700.68		\$5,701	\$0.087
2	2	\$11,401.35		\$11,401	\$0.058
3	2	\$11,401.35		\$11,401	\$0.054
4	4	\$22,802.70		\$22,803	\$0.054
5	2	\$11,401.35		\$11,401	\$0.054
6	2	\$11,401.35		\$11,401	\$0.054
7	6	\$34,204.05		\$34,204	\$0.058
8	4	\$22,802.70		\$22,803	\$0.054
9	2	\$11,401.35		\$11,401	\$0.055
10	2	\$11,401.35		\$11,401	\$0.058
11	1	\$5,700.68		\$5,701	\$0.263
12	1	\$5,700.68		\$5,701	\$0.080
13	6	\$34,204.05		\$34,204	\$0.053
14	8	\$45,605.41		\$45,605	\$0.030 Reduced share due to lake
15	1	\$5,700.68		\$5,701	\$0.057
16	1	\$5,700.68		\$5,701	\$0.049
17	4	\$22,802.70		\$22,803	\$0.051
18	1	\$5,700.68		\$5,701	\$0.063
19	1	\$5,700.68		\$5,701	\$0.054
20	1	\$5,700.68		\$5,701	\$0.063
21	1	\$5,700.68		\$5,701	\$0.067
22	1	\$5,700.68		\$5,701	\$0.045
23	1	\$5,700.68		\$5,701	\$0.057
24	1	\$5,700.68		\$5,701	\$0.057
25	1	\$5,700.68		\$5,701	\$0.057
26	1	\$5,700.68		\$5,701	\$0.058
27	1	\$5,700.68		\$5,701	\$0.057
28	1	\$5,700.68		\$5,701	\$0.130
29	4	\$22,802.70		\$22,803	\$0.060
30	1	\$5,700.68		\$5,701	\$0.053
31	3	\$17,102.03		\$17,102	\$0.052
32	2	\$11,401.35		\$11,401	\$0.052
33	2	\$11,401.35		\$11,401	\$0.052
34	2	\$11,401.35		\$11,401	\$0.059
Main Shares	74	\$421,850.00		\$421,850	\$0.052