KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

1. Explain how Kentucky-American will determine the contractor for each of the pipeline projects listed in the qualified infrastructure program (QIP) filing.

Response:

Each of the budget line B projects listed in the QIP filing will be competitively bid and the work awarded to the contractor submitting the lowest total bid. Contractors will submit sealed bid documents as described in the bid solicitation specific to each project. This will occur for each project with the exception of project 20 which will be completed by KAW construction crews (see Case No. 2021-00090, Stafford Direct Testimony, page 9, line 7 to page 10, line 32). Construction work for projects 1-19 will be performed by independent contractors registered to perform work for KAW.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

2. If the contractor is selected using a pre-executed master services agreement, explain the process for determining the scope of the work and the pricing for each individual project.

Response:

As discussed KAW's response to KAW_PSCRDR1_NUM001_041621, contractors will be selected for each pipeline project using a bid soliciation process in which projects are competitively bid and awarded to the low bidder.

Witness: Kurt A. Stafford

3. To the extent not answered in the previous question, if the project contractor is selected using a master services agreement, explain whether there are agreements priced per foot of pipe installed or by other means.

Response:

Please see KAW's responses to KAW_R_PSCRDR1_NUM001_041621 and KAW_R_PSCRDR1_NUM002_041621.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

4. To the extent not answered in questions 2 or 3, explain how different construction conditions unique to each project are accounted for in the contract pricing.

Response:

Each pipeline project is designed based on the unique conditions specific to the project area. After design is completed, the required construction work is broken down into line items each detailing specific types of work needed to complete the project. Quantities of each line item are tallied for the project and this establishes the bid tab sheet used during the bidding process. These line items could include, but are not limited to, the number and type of services, valves and pipe to be replaced along with other items like water main tie-ins, traffic control and pavement restoration. Contractors submit sealed bids which includes pricing for all line items.

Witness: Kurt A. Stafford

5. If the contractor is selected using a pre-executed master services agreement, state how often the master services agreements are bid or executed.

Response

Please see KAW's response to KAW_R_PSCRDR1_NUM001_041621 and KAW_R_PSCRDR1_NUM002_041621.

Witness: Kurt A. Stafford

6. For the QIP projects, explain which materials are supplied by the contractor and which materials are supplied by Kentucky-American, with the basis for each.

Response:

KAW provides pipe, pipe fittings, hydrants, valves, valve boxes, service line piping, meters, meter boxes, tapping sleeves, casing end seals, and associated small appurtenances including, but not limited to gland packs, anchor nipples, and plugs. KAW is able to purchase these materials and supplies at favorable prices through its centralized procurement group (see Case No 2018-00358 Brent O'Neill Direct Testimony, page 7 lines 9-12). The contractor provides steel casing pipe (if required), trench bedding, trench backfill, and materials for pavement and landscape restoration. The contractors are often able to procure these materials or services locally at more favorable prices than KAW.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

7. Explain in specific detail how Kentucky-American ensures that the construction pricing is competitive and fair.

Response:

Refer to KAW's response to KAW_R_PSCRDR1_NUM001_041621. Bid solicitation forms for each budget line B project are sent to KAW pre-qualified contractors. Sealed contractor bids are then submitted to KAW by a specific deadline outlined in the bid solicitation. After the deadline, the sealed bids are open and reviewed by KAW staff and the project is awarded to the contractor who submits the lowest total bid.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

8. Refer to Case No. 2018-00358, the Direct Testimony of Brent O'Neill, page 9.[2] Provide the same table updated to include 2018, 2019, and 2020.

Response:

The table from Case No. 2018-00358 is updated to include net capital budget versus actual for 2012 through 2020.

KAWC Net Capital Investment Budget vs Actual Capex for 2012 through 2020				
(Does not include Centrally Sponsored Projects)				
Year	Budget	Actual	Variance	
2012	$19,574,649	$17,982,728	($1,591,921)	-8.10%
2013	$23,746,110	$25,963,291	$2,217,181	9.30%
2014	$18,882,745	$18,585,688	($297,057)	-1.60%
2015*	$30,354,368	$30,751,906	$397,538	1.31%
2016**	$22,987,514	$23,110,940	$123,426	0.54%
2017	$23,619,450	$24,757,070	$1,137,620	4.82%
2018	$22,586,099	$26,053,168	$3,467,069	15.35%
2019***	$43,496,665	$46,042,066	$2,545,401	5.85%
2020	$30,032,000	$32,602,316	$2,570,316	8.56%
Cumulative	$235,279,600	$245,849,173	$10,569,573	4.49%

* An additional $5,066,000 was authorized and added to the capital budget
** An additional $3,500,000 was authorized and added to the capital budget
*** An additionaal $9,658,892 was authorized and added to the capital budget

KAWC Net Capital Investment Budget vs Actual Capex for 2012 through 2020				
(Does not include Centrally Sponsored Projects)				
Year	Budget	Actual	Variance	
2012	$19,574,649	$17,982,728	($1,591,921)	-8.10%
2013	$23,746,110	$25,963,291	$2,217,181	9.30%

[2] Case No. 2018-00358, *Electronic Application of Kentucky-American Water Company for an Adjustment of Rates* (filed Nov. 28, 2018), Direct Testimony of Brent E. O'Neill at 9.

2014	$18,882,745	$18,585,688	($297,057)	-1.60%
2015*	$30,354,368	$30,751,906	$397,538	1.31%
2016**	$22,987,514	$23,110,940	$123,426	0.54%
2017	$23,619,450	$24,757,070	$1,137,620	4.82%
2018	$22,586,099	$26,443,168	$3,857,069	17.08%
2019***	$43,496,665	$46,796,458	$3,299,793	7.59%
2020	$30,032,000	$32,602,316	$2,570,316	8.56%
Cumulative	$235,279,600	$246,993,565	$11,713,965	4.98%

* An additional $5,066,000 was authorized and added to the capital budget

** An additional $3,500,000 was authorized and added to the capital budget

*** An additionaal $9,658,892 was authorized and added to the capital budget

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

9. For each QIP project that is the subject of this proceeding, state how much of each size and material of pipe will be retired, and the age for all pipe to be replaced.

Response:

See the attached which details the size, material and age of the pipe which will be retired and replaced as part of the budget line B pipeline projects.

QIP Exhibit Map	Project Name	Est. Project Total Linear Feet	< 4" Main			4" Main			6" Main			8" Main		
			Est. Linear Feet Retired	Pipe Material	Est. Age of Main Retired (Years)	Est. Linear Feet Retired	Pipe Material	Est. Age of Main Retired (Years)	Est. Linear Feet Retired	Pipe Material	Est. Age of Main Retired (Years)	Est. Linear Feet Retired	Pipe Material	Est. Age of Main Retired (Years)
A	Fairway Phase I	3,100	3,147	CIU	74	-	-	-	1,384	CIU	47	-	-	-
B	Wyatt Ave	6,130	276	CIU	unknown	-	-	-	4,592	CIU, CIL, AC	67, unknown	471	CIL	54
C	Bluegrass/Highlawn	2,500	1,314	CIU, CIL	84	344	CIU	110	822	CIU, CIL	83	-	-	-
D	Codell Dr	5,250	1,119	CIU, PVC	49-51	-	-	-	784	CIU	49-51	3,397	CIU	49-51
E	N Ashland/Aurora	4,000	198	CIU	unknown	-	-	-	3,474	CIU, CIL	86, 99, 109	373	Other	50
F	National Ave	3,500	1,023	CIU	86, unknown	-	-	-	3,045	CIU	51, unknown	-	-	-
G	Whitney/Ash	6,600	515	CIU	116	-	-	-	5,671	CIU	99, 116, unknown	853	CIL	54
H	Clays Mill Road Phase II	6,300	1,616	CIU, CIL	74	-	-	-	5,185	CIU, CIL, AC	71-81	-	-	-
I	Montclair Dr	2,200	-	-	-	-	-	-	1,925	CIU, CIL	74, 91	327	AC	75
J	Summit/Kastle	2,900	-	-	-	-	-	-	3,014	CIU, CIL	81, 91	-	-	-
K	Valley Farm Dr	5,400	1,768	CIU	49	-	-	-	1,818	CIU	49	1,872	CIU	49
L	Colchester/Barksdale	3,700	1,231	CIU	53	-	-	-	792	CIU	53	1,667	CIU	53
M	Campbell Ln	550	500	CIU, PVC	unknown	-	-	-	-	-	-	-	-	-
N	Westgate/Hamilton Park	3,600	1,628	CIU, CIL	47, 96	840	CIU	96	2,778	CIU, CIL	47, 62, 84	-	-	-
O	Lancelot Ln	2,500	635	CIU	54	-	-	-	295	CIL	54	1,569	CIU, CIL	53-54
P	Kilrush/Caywood	6,250	750	CIU	50-55	-	-	-	492	CIL	55	4,982	CIU, CIL	50-55
Q	Merrimac/Fogo/Crewe	3,400	493	CIU	49	-	-	-	650	CIU	49	2,200	CIU, CIL	50
R	Tisdale/Fraserdale	5,300	524	CIU	49	-	-	-	1,500	CIU	49	3,231	CIU	49
S	Montavesta Rd	4,400	1,394	CIU	50-52	-	-	-	686	CIU	50-52	2,218	CIU	50-52

*Est. Age of Main Retired is where installation date is known

**CIU: Cast Iron Unlined

CIL: Cast Iron Lined

CI: Cast Iron

AC: Asbestos Cement

Other: Other metal (gray iron, wrought iron)

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

10. Explain in specific detail how the projects are identified to be included in the prioritization model.

Response:

The process of identifying projects in the prioritization model was detailed in Case No. 2018-00358 and Case No 2020-00027. In Mr. Brent O'Neill's Direct Testimony in Case No. 2018-00358 (Exhibit 2, pages 12 and 13), Mr. O'Neill outlines the development of main replacement criteria. Additionally, KAW's response to KAW_R_PSCHDR2_NUM002_052820 in Case No. 2020-00027 further details this process and how projects are identified by the prioritization model. The criteria used in the prioritization model are shown in KAW_R_PSCDR1_NUM010_041621_Attachment.

MAIN REPLACEMENT CRITERIA

Criteria (Max. Points)	*Weight*	*Rating*				
		1	*2*	*3*	*4*	*5*
Low Pressure (75)	15x	50 psi or greater	50 psi to 45 psi	45 psi to 40 psi	40 psi to 35 psi	< 35 psi
Number of Breaks/Leaks (75)	15x	0 breaks/5-year avg.	1-2 breaks/5-year avg.	3-4 breaks/5-year avg.	5-6 breaks/5-year avg.	< 6 breaks/5-year avg.
Fire Flow (50)	10x	Greater than 1,500 gpm (Blue)	1,500 to 1,000 gpm (Green)	999 gpm to 500 gpm (Yellow)	Less than 500 gpm (Red)	Known problems
Age (75)	15x	1995 or later	1980 to 1994	1970 to 1979	1960 to 1969	1959 and prior
Material Type (75)	15x	DI/RCP	PVC/HDPE	Transite/AC	CI/CLCI	Gal. / Steel
Size of Main (50)	10x	8 inch and above	6 inch	4 inch	2 inch to 3 inch	Main smaller than 2 inch
Water Quality (75)	15x	Flushing but not routine	Monthly Flushing	Bi weekly Flushing	Weekly (or more frequent) Flushing	Continuous Flushing (w/ discussion)
Customer Impact (25)	5x	less than 2 customers	2 to 10 customers	11 to 20 customers	greater than 20 customers	School/Hospital (Critical Customer)

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

11. Provide the number of breaks or leaks in the last ten years that have been identified on the pipes that are the subject of this proceeding, broken out by project.

Response:

The following table summarizes the number of main breaks that have occurred in the last ten years for each budget line B project listed in the QIP Year 2 filing.

QIP Exhibit Map	Project Name	Est. Project Total Linear Feet	Road Name	# Breaks
A	Fairway Phase I	3,100	Clayton Ave	1
			Courtney Ave	1
			Appletree Ln	2
			Emery Ct	0
B	Wyatt Ave	6,130	Wyatt Pkwy	1
			Lindy Ln	1
			Appletree Ln	2
			Johnsdale Dr	3
			Benwood Dr	2
C	Bluegrass/Highlawn	2,500	Bluegrass Ave	1
			Highlawn Ave	8
			Willowlawn Ave	0
D	Codell Dr	5,250	Codell Dr	0
			Mirahill Dr	0
			Elderberry Ct	0
			Timberhill Ct	0
			Elkwood Ct	0
			Windwood Ct	0
			Heaton Ct	2
E	N Ashland/Aurora	4,000	N Ashland Ave	0
			Aurora Ave	2
			Hanover Ct	0
			Memory Ln	0
			Richmond Ave	0

F	National Ave	3,500	National Ave	10
			Given Ave	0
			Richmond Ave	0
G	Whitney/Ash	6,600	Whitney Ave	1
			Ash St	1
			Michigan St	1
			Elm St	0
			Booker St	0
			Oak St	0
H	Clays Mill Road Phase II	6,300	Clays Mill Rd	9
			Blue Ash Dr	2
			McCubbing Dr	4
I	Montclair Dr	2,200	Montclair Dr	0
J	Summit/Kastle	2,900	Summit Dr	0
			Scoville Rd	0
			Eldemere Rd	0
K	Valley Farm Dr	5,400	Valley Farm Dr	2
			Costigan Dr	2
			Leitner Ct	1
			Bedinger Ct	2
			Chris Dr	2
			Cobyville Ct	3
			Valley Farm Ct	2
L	Colchester/Barksdale	3,700	Colchester Dr	1
			Barksdale Dr	1
			Bowen Ct	1
			Feltner Ct	3
M	Campbell Ln	550	Campbell Ln	4
N	Westgate/Hamilton Park	3,600	Westgate Dr	7
			Hamilton Park	3
			Leisure Ln	0
O	Lancelot Ln	2,500	Lancelot Ln	0
			King Arthur Dr	4
			King Arthur Ct	2
P	KIlrush/Caywood	6,250	Kilrush Dr	6
			Caywood Dr	1
			Caywood Cir	0
			Kelsey Dr	4
			Kelsey Ct	1
			Kelsey Pl	0
			Yarmouth Ct	1

			Carson Dr	0
			Carson Ct	0
Q	Merrimac/Fogo/Crewe	3,400	Merrimac Dr	0
			Fogo Ct	0
			Crewe Ct	1
R	Tisdale/Fraserdale	5,300	Tisdale Dr	4
			Tisdale Ct	1
			Fraserdale Dr	2
			Fraserdale Ct	0
S	Montavesta Rd	4,400	Montavesta Rd	4
			Montavesta Ct	2
			Clair Rd	0
			Old Crow Ct	2
			Lookout Cir	0

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

12. Provide a copy of the prioritization model results prior to developing the QIP.

Response:

In Case No. 2018-00358 (Brent O'Neill's Direct Testimony, Exhibit 2, pages 12-13), the history of the prioritization model is described. It was established in 2014 with 62 mains initially entered as a pilot. Since 2016, this initial list has been updated with predominantly cast iron mains. The model results were provided in Case No. 2020-00027, Response to Commission Staff's Second Post-Hearing Request, KAW_R_PSCHDR2_NUM002A_052820. KAW continues to update this list periodically as projects are completed or changes to conditions occur. A copy of the prioritization model is attached as KAW_PSCDR1_NUM012_041621_Attachment. It shows rankings for projects from Mr. O'Neill's Exhibit 2 and QIP years 1 and 2.

			Ratings (1-5)													
Street/Project	**Address**	**City**	**Low Pressure**	**Number of Breaks/Leaks (data from Jan 2017-March 2021)**	**Fire Flow**	**Age**	**Material Type**	**Size of Main**	**Water Quality**	**Customer Impact**	**Total Weighted Score**	**Comments**	**QIP YEAR**	**CASE NO. 2018-00358**			
Highlawn Ave	Bluegrass Ave to end	Lexington	2	5		5	4	4	2	3	325	2" CI	QIP YEAR 2				
Westgate Dr	Entire Street	Lexington	2	5		5	4	4	1	4	315	2" and 6" CI; 6" from 1937	QIP YEAR 2	CASE YEAR 5			
Montavesta Rd	Old Crow to End	Lexington	2	5		4	4	4	1	4	300	2" and 8" CI	QIP YEAR 2	CASE YEAR 4			
Lincoln Ave	Entire Street	Lexington	2	3		5	4	4	1	4	285	2" and 6" CI	QIP YEAR 2	CASE YEAR 1			
Clays Mill Road	Stratford to Harrodsburg Rd	Lexington	1	5		5	4	2	1	5	285	6" CI and AC	QIP YEAR 2				
Delmont Dr	Entire Street	Lexington	2	3		5	4	4	1	3	280	2" CI	QIP YEAR 1	CASE YEAR 1			
Halls Ln	100 Block	Lexington	2	3		5	4	4	1	3	280	2" CI	QIP YEAR 1	CASE YEAR 2			
McCubbing Dr	500 Block	Lexington	2	3		5	4	4	1	3	280	2" CI		CASE YEAR 1			
Benwood Dr	Entire Street	Lexington	4	2		5	4	2	1	4	280	8" CI	QIP YEAR 2				
Bluegrass Ave	N Limestone to Highlawn	Lexington	2	2		5	4	4	2	3	280	4" and 6" CI	QIP YEAR 2				
Avon Ave	Entire Street	Lexington	2	2		5	4	4	1	4	270	2" and 6" CI	QIP YEAR 1	CASE YEAR 1			
Winchester Rd	5000 and 5200 Blocks	Lexington	3	3		5	4	1	1	4	270	8" CI	QIP YEAR 1	CASE YEAR 2			
Elizabeth St	Sioux to Transcript	Lexington	2	2		5	4	4	1	4	270	2", 8", 16" CI		CASE YEAR 5			
Hamilton Park	Entire Street	Lexington	1	3		5	4	4	1	4	270	2", 4", 6" CI	QIP YEAR 2	CASE YEAR 1			
N Cleveland Rd	100 and 1100 Blocks	Lexington	3	2		4	4	5	1	2	270	1.25" and 6" CI		CASE YEAR 2	Segments along entire stretch		
National Ave	Entire Street	Lexington	1	5		3	4	4	1	4	270	2" and 6" CI	QIP YEAR 2	CASE YEAR 5			
Kastle Rd	1000 Block	Lexington	2	1		5	4	5	1	4	265	1" and 4" CI		CASE YEAR 1			
Hunter Cir	Entire Street	Lexington	2	2		5	4	4	1	3	265	2" CI		CASE YEAR 3			
Blue Ash Dr	600 Block	Lexington	2	2		5	4	4	1	3	265	2" CI	QIP YEAR 2	CASE YEAR 2			
Johnsdale Dr	800 Block	Lexington	1	3		5	4	4	1	3	265	2.25" CI	QIP YEAR 2	CASE YEAR 5			
Wyatt Pkwy	Entire Street	Lexington	4	2		5	3	2	1	4	265	8" CI and AC	QIP YEAR 2				
Lindy Ln	Entire Street	Lexington	4	2		5	3	2	1	4	265	8" CI and AC	QIP YEAR 2				
Delmont Ct	Entire Street	Lexington	2	2		5	4	4	1	2	260	2" CI	QIP YEAR 1	CASE YEAR 3			
Forest Park Rd	100 Block	Lexington	2	2		5	4	3	1	4	260	4" and 8" CI		CASE YEAR 5			
Fern Ave	1100 Block	Lexington	2	1		5	4	5	1	3	260	1" CI		CASE YEAR 5			
Greenwood Ave	Entire Street	Lexington	2	1		5	4	5	1	3	260	1" and 8" CI		CASE YEAR 5			
University Ave	Entire Street	Lexington	2	2		5	4	3	1	4	260	4" CI; from 1925	QIP YEAR 1				
State St	Entire Street	Lexington	2	2		5	4	3	1	4	260	4" and 16" CI; 4" from 1925	QIP YEAR 1				
Rosemill Dr	Entire Street	Lexington	1	2		5	4	4	1	4	255	2" CI & 6" CI; replace with 1,150' of 8" DI					
Burnett Ave	Entire Street	Lexington	2	1		5	4	4	1	4	255	2" and 6" CI	QIP YEAR 1	CASE YEAR 1			
Pensacola Dr	1800 Block	Lexington	1	2		5	4	4	1	4	255	2" CI	COMPLETE	CASE YEAR 1	Recent LFUCG project		
Lackawanna Rd	200 Block	Lexington	1	2		5	4	4	1	4	255	2" CI	COMPLETE	CASE YEAR 1	Recent LFUCG project		
Preston Ave	Entire Street	Lexington	2	1		5	4	4	1	4	255	2" and 6" CI	IN DESIGN	CASE YEAR 1			
Cooper Dr	600 Block	Lexington	2	2		5	4	2	1	5	255	6" and 12" CI		CASE YEAR 1			
Clayton Ave	Entire Street	Lexington	1	2		5	4	4	1	4	255	2" and 6" CI	QIP YEAR 2	CASE YEAR 1			
Haley Rd	Small Section	Lexington	2	2		5	4	4	1	1	255	2" CI		CASE YEAR 2			
Rolling Hills Ct	3500 Block	Lexington	2	1		5	4	5	1	2	255	1" CI		CASE YEAR 2	w/ N Cleveland		
Lansdowne Cir	700 Block	Lexington	2	1		5	4	5	1	2	255	1" CI		CASE YEAR 2			
Samuel Ln	Entire Street	Lexington	2	1		5	4	5	1	2	255	1" CI		CASE YEAR 3			
Westwood Dr	100 Block	Lexington	1	2		5	4	4	1	4	255	2" CI		CASE YEAR 5			
Rosemill Dr	Southgate to Clays Mill	Lexington	1	2		5	4	4	1	4	255	2" and 6" CI		CASE YEAR 5			
Gentry Ln	Small Section	Lexington	2	2		4	4	5	1	2	255	1" CI		CASE YEAR 3			
King Arthur Dr	3400 Block	Lexington	1	3		4	4	4	1	4	255	2" CI	QIP YEAR 2	CASE YEAR 3			
Morrison Ave	400 Block	Lexington	2	1		5	4	4	1	3	250	2" CI		CASE YEAR 1			
Briar Hill Rd	Entire Street	Lexington	2	2		5	4	2	1	4	250	6" CI		CASE YEAR 2			
Raven Cir	Entire Street	Lexington	2	1		5	4	4	1	3	250	2" CI		CASE YEAR 3			
Memory Ln	Entire Street	Lexington	2	1		5	4	4	1	3	250	2" and 6" CI	QIP YEAR 2	CASE YEAR 5			
Arceme Ave	Entire Street	Lexington	1	2		5	4	3	1	5	250	4" and 6" CI; from 1930s; School	QIP YEAR 1				
Whitney Ave	Entire Street	Lexington	1	2		5	4	4	1	3	250	2" and 6" CI	QIP YEAR 2	CASE YEAR 1			
Aurora Ave	Entire Street	Lexington	1	2		5	4	2	2	4	250	6" CI	QIP YEAR 2				
Leisure Ln	Entire Street	Lexington	2	1		5	4	4	1	3	250	6" CI	QIP YEAR 2				
Colchester Dr	Entire Street	Lexington	2	2		4	4	4	1	3	250	2.25" and 8" CI	QIP YEAR 2	CASE YEAR 3			
New Zion Rd	100 Block	Lexington	2	1		5	4	4	1	2	245	2.25" CI		CASE YEAR 3			
Tillybrook Ct	Entire Street	Lexington	2	1		5	4	4	1	2	245	2" CI		CASE YEAR 3			
Shirlee Ct	Entire Street	Lexington	2	1		5	4	4	1	2	245	2" CI		CASE YEAR 3			
Hill Rise Ct	Entire Street	Lexington	2	1		5	4	4	1	2	245	2" CI	QIP YEAR 1	CASE YEAR 3			
Crescent Ave	Entire Street	Lexington	2	1		5	4	3	1	4	245	4" and 6" CI; 4" from 1925	QIP YEAR 1				
Given Ln	Entire Street	Lexington	1	1		5	4	4	2	2	245	6" CI	QIP YEAR 2				
Greentree Ct	1100 Block	Lexington	2	2		4	4	4	1	2	245	2" CI		CASE YEAR 3			
Feltner Ct	Entire Street	Lexington	1	3		4	4	4	1	2	245	2.25" CI	QIP YEAR 2	CASE YEAR 3			
Cobyville Ct	Entire Street	Lexington	2	3		3	4	4	1	2	245	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4			
Camden Ave	1400 Block	Lexington	1	1		5	4	4	1	4	240	2" CI		CASE YEAR 1			
Wabash Dr	100 Block	Lexington	1	1		5	4	4	1	4	240	2" CI	COMPLETE	CASE YEAR 1			
Appletree Ln	Entire Street	Lexington	1	1		5	4	4	1	4	240	2" and 6" CI	QIP YEAR 2	CASE YEAR 1			
Courtney Ave	Entire Street	Lexington	1	1		5	4	4	1	4	240	2" and 6" CI	QIP YEAR 2	CASE YEAR 2			
Euclid Ave	Entire Street	Lexington	1	2		5	4	2	1	5	240	6" and 12" CI; 6" from 1914 and 12" from 1937; in conjunction with LFUCG project		CASE YEAR 5			
Old Vine St	300 Block	Lexington	2	2		5	4	2	1	2	240	6" CI		CASE YEAR 5			
Old Richmond Rd	7300 Block	Lexington	1	3		4	4	3	1	3	240	4" CI		CASE YEAR 3			
Greentree Pl	Entire Street	Lexington	2	1		4	4	4	1	4	240	2" CI		CASE YEAR 3			

Greentree Rd	Entire Street	Lexington	2	3		4	4	1	1	4	240	12" CI		
Barbados Ln	Entire Street	Lexington	2	1		4	4	4	1	4	240	2.25" CI		CASE YEAR 3
Clair Rd	Entire Street	Lexington	2	1		4	4	4	1	4	240	2" CI	QIP YEAR 2	CASE YEAR 4
Central Ave	600 Block	Lexington	2	2		4	4	3	1	3	240	4" and 8" CI		CASE YEAR 5
Barksdale Dr	Entire Street	Lexington	1	2		4	4	4	1	4	240	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 3
Kilrush Dr	1100 Block	Lexington	2	4		3	4	1	1	4	240	8" CI	QIP YEAR 2	CASE YEAR 3
Gemini Trail Road	Entire Street	Georgetown	2	5		3	3	1	1	4	240	6" & 8" AC		
Aylesford Place	Entire Street	Lexington	1	2		5	4	2	1	4	235	6" CI; replace w/ 8" DI; replace with approximately 1,500' of 8" DI	IN DESIGN	
Newtown Pike	Louden Ave-Charles Ave	Lexington	1	2		5	4	2	1	4	235	6" CI; replace with approximately 1,800' of 8" DI		
Sayre Ave	Entire Street	Lexington	1	1		5	4	4	1	3	235	2" and 4" CI		CASE YEAR 1
Shawnee Pl	100 Block	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 1
White Ave	200 Block	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 1
Strathmore Rd	300 Block	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 1
Willowlawn Ave	1300 Block	Lexington	1	1		5	4	4	1	3	235	2" CI	QIP YEAR 2	CASE YEAR 1
Lone Oak Dr	Entire Street	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 2
Rainbow Rd	2000 Block	Lexington	1	1		5	4	4	1	3	235	2.25" CI		CASE YEAR 2
Boone Ln	4800 Block	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 2
Sulphur Ln	5000 Block	Lexington	1	1		5	4	4	1	3	235	2.25" CI		CASE YEAR 2
Malabu Ct	Entire Street	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 3
Bradford Cir	200 Block	Lexington	1	1		5	4	4	1	3	235	2" CI		CASE YEAR 3
Bradford Dr	Entire Street	Lexington	1	2		5	4	2	1	4	235	6" CI		
Ridgeway Rd	Entire Street	Lexington	1	1		5	4	4	1	3	235	2" and 6" CI; 2" from 1927 and 6" from 1928		CASE YEAR 5
Russell Cave Rd	1400 Block	Lexington	1	3		5	4	1	1	3	235	8" and 12" CI		CASE YEAR 5
Conn Terrace	Entire Street	Lexington	2	1		5	4	2	1	4	235	6" CI and 6" AC	QIP YEAR 1	
Transcript Ave	Entire Street	Lexington	2	1		5	4	2	1	4	235	6" and 8" CI; from 1935	QIP YEAR 1	
Gazette Ave	Entire Street	Lexington	2	1		5	4	2	1	4	235	6" CI; from 1927	QIP YEAR 1	
Monroe Ave	Entire Street	Lexington	2	1		5	4	2	1	4	235	6" CI; from 1936	IN DESIGN	
Sherman Ave	Entire Street	Lexington	2	1		5	4	2	1	4	235	6" CI; from 1935	IN DESIGN	
N Limestone St	E. Loudon Ave - New Circle Rd	Lexington	1	3		4	4	2	1	4	235	6" CI & 12" CI; replace with 3,700' of 12" DI		
Heather Ct	Entire Street	Lexington	1	2		4	4	4	1	3	235	2" CI	QIP YEAR 2	CASE YEAR 3
Thistleton Cir	Entire Street	Lexington	1	2		4	4	4	1	3	235	2" CI	QIP YEAR 2	CASE YEAR 3
Martinique Ln	Entire Street	Lexington	2	1		4	4	4	1	3	235	2.25" and 6" CI		CASE YEAR 3
Derby Dr	200 Block + Court	Lexington	2	2		3	4	4	1	3	235	2.25" and 6" CI		CASE YEAR 2
Uhlan Ct	400 Block	Lexington	1	1		5	4	4	1	2	230	2" CI		CASE YEAR 1
Emery Ct	Entire Street	Lexington	1	1		5	4	4	1	2	230	2" CI	QIP YEAR 2	CASE YEAR 2
Lamont Ct	Entire Street	Lexington	1	1		5	4	4	1	2	230	2" CI		CASE YEAR 2
Bradley Ct	Entire Street	Lexington	1	1		5	4	4	1	2	230	2" and 6" CI		CASE YEAR 5
Chelan Ct	100 Block	Lexington	1	1		5	4	4	1	2	230	2" CI		CASE YEAR 5
Westwood Ct	200 Block	Lexington	1	1		5	4	4	1	2	230	2" CI		CASE YEAR 5
Longview Dr	500 Block	Lexington	1	2		5	4	2	1	3	230	6" CI		CASE YEAR 5
Oak Hill Dr	1100 Block	Lexington	2	1		5	4	2	1	3	230	6" CI		CASE YEAR 5
N Ashland Ave	National Ave to Cramer Ave	Lexington	1	1		5	4	2	2	3	230	6" CI	QIP YEAR 2	
Ash St	Whitney Ave to Georgetown Rd	Lexington	1	2		5	4	2	1	3	230	6" CI	QIP YEAR 2	
Michigan St	Whitney Ave to Georgetown Rd	Lexington	1	2		5	4	2	1	3	230	6" CI	QIP YEAR 2	
Old Dobbin Cir	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Edinburgh Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI	QIP YEAR 2	CASE YEAR 3
Croyden Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI	QIP YEAR 2	CASE YEAR 3
Woodside Cir	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Jade Cir	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Granite Cir	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Shiloh Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Cricklewood Ct	Entire Street	Lexington	1	2		4	4	4	1	2	230	2" CI		CASE YEAR 3
Berwin Ct	3500 Block	Lexington	2	1		4	4	4	1	2	230	2.25" CI		CASE YEAR 3
Ipswich Ct	3400 Block	Lexington	1	2		4	4	4	1	2	230	2.25" CI		CASE YEAR 3
Flintridge Cir	3400 Block	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Greentree Cir	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Paddock Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2.25" CI		CASE YEAR 3
Penway Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2.25" CI		CASE YEAR 3
Kirk Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI		CASE YEAR 3
Black Arrow Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2.25" CI		CASE YEAR 3
Montavesta Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2" CI	QIP YEAR 2	CASE YEAR 4
Cummins Ct	Entire Street	Lexington	1	2		4	4	4	1	2	230	2" CI		CASE YEAR 4
Lilydale Ct	Entire Street	Lexington	2	1		4	4	4	1	2	230	2.25" CI		CASE YEAR 4
Kelsey Ct	Entire Street	Lexington	1	2		4	4	4	1	2	230	2.25" CI	QIP YEAR 2	CASE YEAR 3
King Arthur Ct	Entire Street	Lexington	1	2		4	4	4	1	2	230	2" CI	QIP YEAR 2	CASE YEAR 3
Bowen Ct	Entire Street	Lexington	1	2		4	4	4	1	2	230	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 3
Old Crow Ct	Entire Street	Lexington	1	2		4	4	4	1	2	230	2" and 6" CI	QIP YEAR 2	CASE YEAR 4
Old Richmond Rd	7641-Durbin Ln	Lexington	1	3		4	3	3	1	4	230	4" AC; replace with 8,500' of 6" DI		
Tabago Ct	Entire Street	Lexington	1	3		3	4	4	1	2	230	2.25" and 6" CI		CASE YEAR 3
Margo Ct	Entire Street	Lexington	2	2		3	4	4	1	2	230	2.25" CI		CASE YEAR 4
Jamaica Ct	Entire Street	Lexington	2	2		3	4	4	1	2	230	2.25" CI		CASE YEAR 4
Bedinger Ct	Entire Street	Lexington	2	2		3	4	4	1	2	230	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4
Yarmouth Ct	Entire Street	Lexington	2	2		3	4	4	1	2	230	2" CI	QIP YEAR 2	CASE YEAR 3

Leitner Ct	Entire Street	Lexington	2	2		3	4	4	1	2	230	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4
Burton Road	578-1457	Georgetown	2	3		3	3	3	1	4	230	4" & 3" AC; replace with 10,200' of 6" DI		
Ralston Lane	Entire Street	Winchester	1	2		2	2	4	5	2	230	2" PVC; Continuous Flushing		
Schoolhouse Lane	Entire Street	Winchester	1	2		2	2	4	5	2	230	2" & 3" PVC; Continuous Flushing		
Campbell Ln	800 Block	Lexington	2	3			4	4	3	2	230	2" CI	QIP YEAR 2	CASE YEAR 5
Silver Maple Way	Entire Street	Lexington	1	1		5	4	1	2	4	225	8" CI; Reference 4th St/Chestnut St Flushing; tied to N Martin Luther King Blvd Replacement (do at same time)		
Breckenwood Dr	Small Section	Lexington	1	1		5	4	4	1	1	225	2" CI		CASE YEAR 2
Avenue of Champions	Entire Street	Lexington	1	1		5	4	2	1	5	225	6" and 12" CI; 6" from 1914 and 12" from 1937; in conjunction with LFUCG project	COMPLETE	
W Main St	Vine to Old Georgetown	Lexington	1	2		5	4	1	1	4	225	8" CI; from 1884		
Pine St	500 Block	Lexington	2	1		5	4	2	1	2	225	6" CI; from 1926		CASE YEAR 5
Eastland Drive	Industry Rd-New Circle Rd	Lexington	2	2		4	4	1	1	4	225	8" CI		
Plainview Rd	Small Section	Lexington	2	1		4	4	4	1	1	225	2" CI		CASE YEAR 3
Sutherland Dr	3500 Block	Lexington	1	1		4	4	4	1	4	225	2.25" and 8" CI		CASE YEAR 4
Lancelot Ln	Greenlawn to Camelot	Lexington	1	1		4	4	4	1	4	225	8" CI	QIP YEAR 2	
Montavesta Road	2917-2994	Lexington	1	4		3	4	1	1	4	225	8" CL	QIP YEAR 2	
Maywood Park	Entire Street	Lexington	2	1		3	4	4	1	4	225	2" CI		CASE YEAR 4
Oaklawn Park	Entire Street	Lexington	2	1		3	4	4	1	4	225	2" CI		CASE YEAR 4
Narragansett Park	Entire Street	Lexington	2	1		3	4	4	1	4	225	2" and 6" CI		CASE YEAR 4
Ox Hill Dr	Entire Street	Lexington	2	1		3	4	4	1	4	225	2" and 6" CI		CASE YEAR 4
Golden Gate Park	Entire Street	Lexington	2	1		3	4	4	1	4	225	2.25" and 6" CI		CASE YEAR 4
Kenil Ct	Entire Street	Lexington	2	1		3	4	5	1	2	225	1" CI		CASE YEAR 4
Valley Farm Dr and Ct	Entire Street	Lexington	1	2		3	4	4	1	4	225	2.25" and 8" CI	QIP YEAR 2	CASE YEAR 4
Chris Dr and Ct	Entire Street	Lexington	1	2		3	4	4	1	4	225	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4
Tisdale Dr and Ct	Entire Street	Lexington	1	4		3	4	1	1	4	225	8" CI	QIP YEAR 2	
Leesburg-Newtown Road	100-1899	Paris	2	3		3	3	3	1	3	225	4" AC		
Linden Walk/Rose Lane	Entire Street (Linden Walk)/Linden Walk to Aylesford Place (Rose Lane)	Lexington	1	1		5	4	2	1	4	220	6" CI; replace with 1,900' of 8" DI	IN DESIGN	
Kentucky Avenue	Euclid Ave-Maxwell St	Lexington	1	1		5	4	2	1	4	220	6" CI; replace w/ 8" DI		
Richmond Ave	300 Block	Lexington	1	1		5	4	2	1	4	220	6" CI	QIP YEAR 2	CASE YEAR 1
Folkstone Dr	Plainview to RR track	Lexington	1	2		5	4	1	1	3	220	16" CI		CASE YEAR 3
Curry Ave	Most of Street	Lexington	1	1		5	4	2	1	4	220	6" and 8" CI; 6" is from 1901		CASE YEAR 4
Lakeshore Dr	Backside of RR to Island	Lexington	1	2		5	4	1	1	3	220	16" CI; from 1912		
Glenn Pl	Entire Street	Lexington	1	1		5	4	2	1	4	220	6" CI; some from 1930s	QIP YEAR 1	
Wittland Ln	Entire Street	Lexington	1	1		5	4	2	1	4	220	6" CI; some from 1922	QIP YEAR 1	
Devonia Ave	Entire Street	Lexington	1	1		5	4	2	1	4	220	6" CI; from 1930s	QIP YEAR 1	
Carlisle Ave	Entire Street	Lexington	1	1		5	4	2	1	4	220	6" CI; from 1930s	QIP YEAR 1	
Orion Way	Entire Street	Lexington	1	1		5	4	2	1	4	220	6" CI; from 1930s	QIP YEAR 1	
Montclair Dr	Tates Creek Rd to end	Lexington	1	1		5	4	2	1	4	220	6" CI	QIP YEAR 2	
Journal Ave	Entire Street	Lexington	2	1		5	3	2	1	4	220	6" AC	QIP YEAR 1	
Grant Pl	Entire Street	Lexington	2	1		3	4	4	1	3	220	2" CI		CASE YEAR 4
Cayman Ln	3600 Block	Lexington	1	2		3	4	4	1	3	220	2.25" and 6" CI		CASE YEAR 4
Bridgeport Dr	Entire Street	Lexington	2	1		3	4	4	1	3	220	2.25" and 6" CI		CASE YEAR 4
Costigan Dr	Entire Street	Lexington	1	2		3	4	4	1	3	220	2.25", 6", 8" CI	QIP YEAR 2	CASE YEAR 4
Beulah Park	Entire Street	Lexington	2	1		3	4	4	1	3	220	2.25" and 6" CI		CASE YEAR 4
Atokad Park	Entire Street	Lexington	2	1		3	4	4	1	3	220	2.25" and 6" CI		CASE YEAR 4
Von List Way	Entire Street	Lexington	1	2		3	4	4	1	3	220	2" and 8" CI		CASE YEAR 4
Kelsey Dr and Pl	Entire Street	Lexington	2	3		3	4	1	1	3	220	8" CI	QIP YEAR 2	CASE YEAR 3
Perry St	200 Block	Lexington	1	1		5	4	2	1	3	215	6" CI		CASE YEAR 1
Gunn St	300 Block	Lexington	1	1		5	4	2	1	3	215	6" CI		CASE YEAR 1
Warnock St	200 Block	Lexington	1	1		5	4	2	1	3	215	6" CI		CASE YEAR 1
Castlewood Dr	Entire Street	Lexington	1	1		5	4	2	1	3	215	6" and 8" CI		CASE YEAR 5
Merino St	500 Block	Lexington	1	1		5	4	2	1	3	215	6" CI; from 1884		CASE YEAR 5
Summit Dr	Montclair Dr to Cooper Dr	Lexington	1	1		5	4	2	1	3	215	6" CI	QIP YEAR 2	
Scoville Dr	Montclair Dr to Cooper Dr	Lexington	1	1		5	4	2	1	3	215	6" CI	QIP YEAR 2	
Eldemere Dr	Montclair Dr to Cooper Dr	Lexington	1	1		5	4	2	1	3	215	6" CI	QIP YEAR 2	
Hialeiah Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2.25" and 6" CI		CASE YEAR 3
Hot Springs Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2.25" and 6" CI		CASE YEAR 3
Keeneland Ct	1300 Block	Lexington	1	1		4	4	4	1	2	215	2.25" and 6" CI		CASE YEAR 3
Cross Keys Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI	QIP YEAR 2	CASE YEAR 3
Sheffield Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI	QIP YEAR 2	CASE YEAR 3
Gentry Rd	100 Block	Lexington	1	2		4	4	2	1	3	215	6" CI		CASE YEAR 3
Williamsburg Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Range Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI	QIP YEAR 1	CASE YEAR 3
Kimberlite Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Durham Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Gayle Cir	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Saybrook Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Waycrosse Cir	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Cardigan Ct	600 Block	Lexington	1	1		4	4	4	1	2	215	2.25" CI		CASE YEAR 3
Tanner Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Toronto Rd	100 and 200 Blocks	Lexington	2	2		4	4	1	1	2	215	12" CI		CASE YEAR 3
Middlesex Ct	2800 Block	Lexington	1	1		4	4	4	1	2	215	2.25" CI		CASE YEAR 3

Halsted Ct	1500 Block	Lexington	1	1		4	4	4	1	2	215	2" and 6" CI		CASE YEAR 3
Kildare Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 3
Butternut Hill Ct	Entire Street	Lexington	1	1		4	4	4	1	2	215	2.25", 6", 8" CI		CASE YEAR 3
Havelock Cir	Entire Street	Lexington	1	1		4	4	4	1	2	215	2.25" CI		CASE YEAR 3
Daniel Ct	2000 Block	Lexington	1	1		4	4	4	1	2	215	2" and 6" CI		CASE YEAR 4
Whitemark Ct	4000 Block	Lexington	1	1		4	4	4	1	2	215	2.25" CI		CASE YEAR 4
Ormond Cir	3500 Block	Lexington	1	1		4	4	4	1	2	215	2" CI		CASE YEAR 4
Victoria Way	4000 Block	Lexington	2	1		3	4	4	1	2	215	2" and 8" CI		CASE YEAR 3
Saginaw Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 3
Rittenhouse Ct	1900 Block	Lexington	2	1		3	4	4	1	2	215	2" and 6" CI		CASE YEAR 4
Fogo Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4
Birkenhead Cir	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" and 6" CI	IN DESIGN	CASE YEAR 4
Moundview Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2" and 6" CI		CASE YEAR 4
Lisa Cir	Entire Street	Lexington	1	2		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Mona Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Karen Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Versie Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2" CI		CASE YEAR 4
Jannelle Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Tammy Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Laverne Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Grevey Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Lynnwood Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Woodston Ct	Entire Street	Lexington	1	2		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Clearwood Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" and 6" CI		CASE YEAR 4
Waters Edge Pl	Entire Street	Lexington	1	2		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Bass Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Swoonalong Ct	Entire Street	Lexington	1	2		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Gunbow Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 4
Pittman Creek Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI		CASE YEAR 5
Timberhill Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI	QIP YEAR 2	CASE YEAR 5
Elderberry Ct	Entire Street	Lexington	2	1		3	4	4	1	2	215	2.25" CI	QIP YEAR 2	CASE YEAR 5
Crewe Ct	Entire Street	Lexington	1	2		3	4	4	1	2	215	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4
Heaton Ct	Entire Street	Lexington	1	2		3	4	4	1	2	215	2.25" CI	QIP YEAR 2	CASE YEAR 5
Newtown Pike	4305-4626	Lexington	2	2		3	3	4	1	2	215	3" AC		
La Somme Dr & Riviera Rd	Entire Street	Lexington	1	3		2	4	3	1	4	215	4" CI		
E Main St	MLK to Richmond Rd	Lexington	1	1		5	4	1	1	4	210	12" and 16" CI; 2x16" from 1900 and 1909		CASE YEAR 5
Ransom Ave	Entire Street	Lexington	1	1		5	4	2	1	2	210	6" CI; from 1911		
Shreve Ave	Entire Street	Lexington	1	1		5	4	2	1	2	210	6" CI; from 1910		
Woodland Ave	Entire Street	Lexington	1	1		5	4	2	1	2	210	6" CI; from 1891		
Kentucky Ave	Entire Street	Lexington	1	1		5	4	2	1	2	210	6" CI; from 1895		
Elm St	Charles St to Georgetown Rd	Lexington	1	1		5	4	2	1	2	210	6" CI	QIP YEAR 2	
Booker St	Entire Street	Lexington	1	1		5	4	2	1	2	210	6" CI	QIP YEAR 2	
Eastland Parkway	E Cantrill Dr - Biloxi Ct	Lexington	1	2		4	4	1	1	4	210	8" CI		
Pennebaker Dr	Entire Street	Lexington	1	2		4	4	1	1	4	210	8" CI		
Caywood Dr	Entire Street	Lexington	1	2		4	4	1	1	4	210	8" CI	QIP YEAR 2	
Bahama Road	2030-Winchester Rd.	Lexington	1	3		3	4	1	1	4	210	8" CI		
Aldershot Dr	3400 Block	Lexington	1	1		3	4	4	1	4	210	2.25" and 8" CI		CASE YEAR 3
Tanforan Dr	Entire Street	Lexington	1	1		3	4	4	1	4	210	2" and 8" CI		CASE YEAR 4
Latonia Park	Entire Street	Lexington	1	1		3	4	4	1	4	210	2.25" CI		CASE YEAR 4
Bellmeade Rd	Entire Street	Lexington	1	1		3	4	4	1	4	210	2" and 6" CI		CASE YEAR 4
Canonero Dr	Entire Street	Lexington	1	1		3	4	4	1	4	210	2.25" and 6" CI		CASE YEAR 4
Pepperhill Rd	Gingertree to Simcoe	Lexington	2	2		3	4	1	1	4	210	8" CI		
Mirahill Dr	Entire Street	Lexington	1	1		3	4	4	1	4	210	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 5
Macadam Dr	Entire Street	Lexington	1	1		3	4	4	1	4	210	2" and 8" CI		CASE YEAR 5
Gentry Road	177-550	Winchester	2	3		2	2	5	1	2	210	1.5" PVC		
Meadow Lane	950-1199	Lexington	1	1		4	4	2	1	4	205	6" CL		
Beacon Hill Rd	1900 Block	Lexington	2	1		4	4	1	1	3	205	8" CI		CASE YEAR 2
Terrace View Dr	Entire Street	Lexington	2	1		4	4	1	1	3	205	8" CI	QIP YEAR 1	CASE YEAR 3
Rebel Rd	2000 Block + Court	Lexington	1	1		3	4	4	1	3	205	2" CI		CASE YEAR 2
Mulberry Dr and Ct	Entire Street	Lexington	1	1		3	4	4	1	3	205	2" and 8" CI		CASE YEAR 3
Waterford Park	3200 Block	Lexington	1	1		3	4	4	1	3	205	2.25" and 6" CI		CASE YEAR 4
Fraserdale Dr	Entire Street	Lexington	1	2		3	4	2	1	4	205	6" CI	QIP YEAR 2	
Ascot Park	Entire Street	Lexington	1	1		3	4	4	1	3	205	2" and 6" CI		CASE YEAR 4
Ak-sar-ben Park	Entire Street	Lexington	1	1		3	4	4	1	3	205	2" and 6" CI		CASE YEAR 4
Gingertree Cir	3500 Block	Lexington	1	1		3	4	4	1	3	205	2" and 6" CI		CASE YEAR 4
Codell Dr	Woodhill to Palumbo	Lexington	1	1		3	4	4	1	3	205	8" CI	QIP YEAR 2	
US 25	Hurricane Hall Rd-Lisle Rd	Lexington	1	3		3	3	2	1	4	205	6" AC		
Niagara Dr	Trout to End	Lexington	1	2		2	4	4	1	3	205	2" and 8" CI		CASE YEAR 4
Grand Ave	Entire Street	Lexington	1	1		5	4	1	1	2	200	8" CI; from 1884		
Tateswood Dr	600 Block	Lexington	1	1		4	4	2	1	3	200	6" CI		CASE YEAR 3
Lewis St	Entire Street	Lexington	2	1		3	4	2	1	3	200	6" CI		CASE YEAR 3
Kilkenny Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		CASE YEAR 3
Plumtree Ct	2400 Block	Lexington	1	1		3	4	4	1	2	200	2.25" and 6" CI		CASE YEAR 4

Thornberry Ct	2400 Block	Lexington	1	1		3	4	4	1	2	200	2.25" and 6" CI		CASE YEAR 4
Tanforan Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		
Fraserdale Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 4
Lookout Cir	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI	QIP YEAR 2	CASE YEAR 4
Wem Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		CASE YEAR 4
Winnipe Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" and 6" CI		CASE YEAR 4
Woodlake Way	Entire Street	Lexington	2	1		3	4	2	1	3	200	6" CI		CASE YEAR 4
Wood Valley Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" and 8" CI		CASE YEAR 4
Harris Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" CI		CASE YEAR 4
Grant Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		CASE YEAR 4
Hollow Creek Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		CASE YEAR 4
Graig Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" CI		CASE YEAR 4
Harmony Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" CI		CASE YEAR 4
Warwick Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" and 6" CI		CASE YEAR 4
Brandon Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		CASE YEAR 4
Personality Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2" CI		CASE YEAR 4
Trepassey Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" and 6" CI		CASE YEAR 5
Windwood Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" and 6" CI	QIP YEAR 2	CASE YEAR 5
Elkwood Ct	Entire Street	Lexington	1	1		3	4	4	1	2	200	2.25" CI	QIP YEAR 2	
Newtown Pike	4626-5022	Lexington	2	1		3	3	4	1	2	200	2 1/4" AC		
North Cleveland Road	1301-2999	Lexington	2	1		3	3	3	1	4	200	4" AC		
North Cleveland Road	176-584	Lexington	3	2		2	2	4	1	2	200	2" PVC		
Montrose Drive	Entire Street	Lexington	1	1		4	4	1	1	4	195	8" CI; replace w/ approx. 1,000 of 8" DI		
Caywood Cir	Entire Street	Lexington	1	1		4	4	2	1	2	195	6" CI	QIP YEAR 2	
Carson Ct	Entire Street	Lexington	1	1		4	4	2	1	2	195	6" CI	QIP YEAR 2	
Kilkenny Dr	End of Street	Lexington	1	2		3	4	1	1	4	195	8" CI		
Lakeshore Dr	Island	Lexington	1	2		3	4	1	1	4	195	12" CI		
Moore Dr	Entire Street	Lexington	1	2		3	4	1	1	4	195	12" CI		CASE YEAR 5
Bassett Ave	Entire Street	Lexington	2	1		3	4	1	1	4	195	8" CI	QIP YEAR 2	
Wilderness Rd	Entire Street	Lexington	2	2		3	3	1	1	4	195	8" AC		
Newtown Pike	3500-4305	Lexington	1	3		3	3	2	1	2	195	6" AC		
Carson Dr	Entire Street	Lexington	1	1		4	4	1	1	3	190	8" CI	QIP YEAR 2	
Wyse Sq	Entire Street	Lexington	1	1		3	4	2	1	4	190	6" CI		
Hedgewood Ct	Whole Complex	Lexington	1	1		3	4	2	1	4	190	6" and 8" CI		CASE YEAR 4
Elk Lake		Owenton	2	1		3	2	3	1	5	190	Various water mains		
Ferguson St	Entire Street	Lexington	2	2			4	4	1	3	190	2" and 8" CI		CASE YEAR 5
Lagonda Ave	Entire Street	Lexington	1	1		3	4	2	1	3	185	6" CI		CASE YEAR 1
Georgetown Rd	6000-14200	Owenton	2	1		3	2	3	1	4	185	4"		
Spruce St	200 Block	Lexington	2	1		2	4	2	1	3	185	6" CI	QIP YEAR 1	CASE YEAR 1
Sidwell Lane	204-dead end	Lexington	2	2		2	2	4	1	2	185	2" PVC		
Turner Station Road	Entire Street	Lexington	1	1		4	3	2	1	2	180	6" AC		
Osage Ct	Entire Street	Lexington	1	1		3	4	2	1	2	180	6" CI		CASE YEAR 3
Aqueduct Dr	Half of Street	Lexington	1	1		3	4	1	1	4	180	8" CI		
Stephen Foster Dr	Ox Hill to End	Lexington	1	1		3	4	1	1	4	180	8" CI		
Merrimac Dr	Entire Street	Lexington	1	1		3	4	1	1	4	180	8" CI	QIP YEAR 2	
Carriage Lane	Entire Street	Lexington	1	2		3	3	1	1	4	180	8" AC		
Grassy Creek Drive	3881-3929	Lexington	1	2		3	3	1	1	4	180	8" AC		
Anderson St	Entire Street	Lexington	2	1			4	4	1	4	180	2" CI		CASE YEAR 5
Robertson St	300 Block	Lexington	1	2			4	4	1	3	175	2" and 6" CI	IN DESIGN	CASE YEAR 5
Martin Ave	Entire Street	Lexington	2	1			4	4	1	3	175	2" CI		CASE YEAR 5
Newtown Pike	3290-3500	Lexington	1	2		3	3	1	1	2	170	8" AC		
Paige Ct	2100 Block	Lexington	2	1			4	4	1	2	170	2.25" and 6" CI		CASE YEAR 5
Iron Works Pike	1600-289	Lexington	1	1		3	3	1	1	4	165	8" AC		
KY 330	2600	Owenton	2	1		3	2	2	1	2	165	Road has slipped and affected the ability to maintain the main		
Carrick Pike	100-1698	Georgetown	1	3		2	2	1	1	4	165	8" C900 & PVC		
Leestown Road	Scott Co.	Georgetown	1	3		2	2	1	1	3	160	8" C900 PVC		
Floyd Dr	Small Cluster	Lexington	1	1			4	5	1	1	160	1" CI		CASE YEAR 5
Montgomery Ave	600 Block	Lexington	1	2			4	2	1	3	155	6" CI		CASE YEAR 5
Deer Haven Road	1000-1361	Lexington	1	2		2	2	1	1	4	150	12" PVC		
Coolidge St	Entire Street	Lexington	1	1			4	2	1	4	145	6" CI		

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Elaine K. Chambers

13. The Order dated June 27, 2019 in Case No. 2018-00358 at page 19 details Kentucky-American's proposed net original rate base, adjustments, and the Commission's authorized net original rate base for that case by rate base component. Using the same components, provide a comparison to the calculation of actual net original rate base at the end of the test period in Case No. 2018-00358 and the following:

    a. The actual rate base at the end of 2020 in total;

    b. The actual rate base at the end of 2020 without the QIP projects;

    c. The projected rate base at the end of QIP Year 1 in total;

    d. The projected rate base at the end of QIP Year 1 without the QIP;

    e. The projected rate base at the end of QIP Year 2 in total; and

    f. The projected rate base at the end of QIP Year 2 without the QIP.

Response:

Please refer to the attached Excel file, KAW_R_PSCDR1_NUM013_041621.xlxs.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

14. Provide the actual QIP construction expenditures, by month, for QIP Year 1 through the end of March 2021.

Response:

The following table summarizes the actual QIP construction expenditures, by month, for QIP Year 1 through the end of March 2021.

2020								2021		
May	June	July	August	September	October	November	December	January	February	March
$634	$100,574	$190,069	$385,503	$182,583	$402,055	$574,333	$1,207,068	$896,291	$437,623	$2,155,424

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

15. Provide the actual 2020 amounts of QIP placed in service, by month, through the end of March 2021.

Response:

The following table summarizes the amounts of QIP placed in service, by month, through the end of March 2021. Within the next 30 days, approximately $4.2M of budget line B spend will be placed in service. This spend is associate with the Winchester Road, State Street Phases 1 and 2 and Castlewood Phase 1 projects. By the end of June 2021, the Company anticipates that all or nearly all of the QIP 1 budget line B projects will be placed in service.

2020						2021		
July	August	September	October	November	December	January	February	March
$89,173	$64,012	$88,808	$229,114	$117,380	$335,774	$80,915	$102,716	$90,477

Witness: Kurt A. Stafford

16. In Case No. 2018-00358, O'Neill Direct Testimony, Exhibit 2 (O'Neill Direct Testimony, Exhibit 2), Kentucky-American identified the material of pipe that generated the most number of leaks. Explain whether Kentucky-American has identified the age of the pipe that generated the most number of leaks.

Response:

No one specific pipe age has been identified as significantly more prone to leaks than others. Within the prioritization model, pipe age is one of eight criteria used to determine the replacement priority of a main. As compared to the other replacement criteria, it ranks equally with low pressure, number of break/leaks, pipe material and water quality (Case No. 2018-00358, Mr. Brent O'Neill's Direct Testimony, Exhibit 2, pages 12 and 13). The ranking criteria for pipe age gives a higher priority to mains as their age increases.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

17. Refer to the Direct Testimony of Kurt A. Stafford (Stafford Direct Testimony), pages 9–10, and Case No. 2018-00358, O'Neill Direct Testimony, Exhibit 2. For each project listed in QIP Year 2 in this proceeding, identify which of the projects is represented by the projects listed in O'Neill Direct Testimony, Exhibit 2.

    a. Explain whether the proposed QIP Year 2 project is less than, the same, or greater than the scope proposed in O'Neill Direct Testimony, Exhibit 2.

    b. If the project is not identified in O'Neill Direct Testimony, Exhibit 2, explain why the project is proposed in this proceeding instead of the projects in O'Neill Direct Testimony, Exhibit 2.

Response:

a. The table below matches projects from the QIP Year 2 filing to projects proposed in Mr. Brent O'Neill's Direct Testimony (Exhibit 2) in Case No. 2018-00358. It should be noted that the projects outlined in Exhibit 2 consist generally of smaller sections of cast iron main corresponding to street blocks. The projects approved in QIP Year 1 and now proposed in the QIP Year 2 filing are generally on a larger scale to help increase economies of scale and do not match up exactly to Exhibit 2. This topic was also discussed in Case No. 2020-00027 for QIP Year 1. In Commission Staff's Post-Hearing Request for Information, KAW_R_PSCHDR2_NUM003_052820 in that case, there is significant discussion regarding the choice of project areas and their relation to the sample projects outlined in Exhibit 2 of Mr. O'Neills Direct Testimony. Page 13 of Exhibit 2 to Mr. O'Neill's Direct Testimony emphasizes the need to consider external factors along with the prioritization model when choosing project areas.

Exhibit 2 Year 1 Project #2	Stafford Map Exhibit G
Exhibit 2 Year 1 Project #7	Stafford Map Exhibit N
Exhibit 2 Year 1 Project #33	Stafford Map Exhibit H
Exhibit 2 Year 1 Project #36	Stafford Map Exhibit A
Exhibit 2 Year 1 Project #37	Stafford Map Exhibit A
Exhibit 2 Year 2 Project #1	Stafford Map Exhibit A

Exhibit 2 Year 2 Project #2	Stafford Map Exhibit A
Exhibit 2 Year 2 Project #3	Stafford Map Exhibit H
Exhibit 2 Year 3 Project #29	Stafford Map Exhibit P
Exhibit 2 Year 3 Project #36	Stafford Map Exhibit O
Exhibit 2 Year 3 Project #50	Stafford Map Exhibit L
Exhibit 2 Year 4 Project #1	Stafford Map Exhibit S
Exhibit 2 Year 4 Project #10 (partial)	Stafford Map Exhibits Q (partial) and R (partial)
Exhibit 2 Year 4 Project #11	Stafford Map Exhibit S
Exhibit 2 Year 4 Project #29	Stafford Map Exhibit K
Exhibit 2 Year 5 Project #2	Stafford Map Exhibit N
Exhibit 2 Year 5 Project #10	Stafford Map Exhibit M
Exhibit 2 Year 5 Project #17	Stafford Map Exhibit D
Exhibit 2 Year 5 Project #24	Stafford Map Exhibit B
Exhibit 2 Year 5 Project #31	Stafford Map Exhibit E
Exhibit 2 Year 5 Project #33	Stafford Map Exhibit F

b. All of the projects proposed in QIP Year 2 have overlap with projects outlined in Exhibit 2 of Mr. O'Neill's Testimony.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

18. Refer to Stafford Direct Testimony, page 8, line 21. Explain how the estimated expenditures of $19,700,000 proposed in this filing for 78,800 feet or 14.9 miles of main, exceed the estimated 20-year replacement cycle annual expenditures of $15.5 million to $9.5 million in the report attached as O'Neill Direct Testimony, Exhibit 2.

Response:

Exhibit 2 was created in 2017 and 2018. It utilized a per foot unit cost of $150 per foot. Since Exhibit 2 was created, several factors have impacted the cost of pipe installation. First, the Lexington-Fayette Urban County Government or LFUCG has increased the amount of pavement restoration when utility cuts are made in public rights-of-way. The LFUCG public rights-of-way ordinance, Chapter 17C of the Code of Ordinances, was updated in March 2019. Current pavement restoration practice typically consists of full lane width pavement restoration and at times, curb to curb restoration, on smaller residential streets without a centerline. For many projects, pavement restoration is the largest single cost for the project. Additionally, KAW has added some corrosion control practices to ensure the longevity of the pipe we install. We now utilize a slightly heavier class of ductile iron pipe as well as a protective zinc coating on the exterior of the pipe. Both of these practices ensure the reliability and longevity of newly installed water mains. A final factor relates to the location of the proposed projects. All of them are located in public rights-of-way which means significant pavement restoration will be required. KAW is currently pricing around $250 per foot for recent similar project when the factors described above are taken into account.

Witness: Kurt A. Stafford

19. In O'Neill Direct Testimony, Exhibit 2, page 18, the selection of the replacement rate included the following discussion:

> With the 15 year and the 20 year replacement periods, the removal of the cast iron is quicker and allows for the effort to replace asbestos cement to begin sooner. However, the amount of capital required per year was a concern with respect to support from the community. In addition, the level of capital commitment per year for the 15 year and 20 year replacement rates could have a negative impact on KentuckyAmerican to address other infrastructure replacement needs such as water treatment components at the water treatment plants that are also entering the end of their useful life. Finally, the amount of miles of replacement main per year of 16 and 12 miles for the 15 year and 20 year replacement rates is a concern for the impact on available resources to complete the construction each year. The 15 year replacement rate is a fourfold increase in the amount of main replaced during 2014 to 2016. This increase would be a significant strain on the available company and contractor resources and would require a substantial increase in labor and equipment that Kentucky-American is concerned can be sustained over the period of the replacement program.

Explain how KAW has determined that a 20-year replacement cycle is now not a concern with respect to support from the community, the level of capital commitment per year, or available resources to complete construction each year.

Response:

The 25-year replacement cycle for galvanized and cast iron main was chosen as a component of a larger QIP program aimed to accelerate the replacement of aging distribution and treatment infrastructure at KAW. The QIP program was described in and approved as part of Case No. 2018-00358. The filing for QIP Year 1 in Case No 2020-00027 included the reaplacement of both aging distribution and treatment components as described in the 2018 Rate Case. However, in the Order for QIP Year 1, the Commission decided to only approve main replacement in budget lines B and C. This constituted about 60% of the QIP Year 1 Proposal. In the evidentiary hearing in that case and in the subsequent final order of June 17, 2020, the Commission emphasized that KAW should focus on main replacement. Therefore, KAW has ramped up its efforts to replace aging cast iron and galvanized mains. The difference between the 25 and 20-year replacement cycle is effectively about 2-3 additional miles of main replacement per year. Given the Commission's directive in Case No. 2020-00027, KAW has placed a great deal of effort

into the planning and coordination into the QIP Year 2 projects and believes this level of work can be sustained to proactively remove aging cast iron and galvanized mains. KAW has worked to increase its pool of contractors who can work on these projects and has performed significant work on resource allocation to time the bidding and construction of Year 2 QIP projects in a way that is achievable.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

20. Refer to Stafford Direct Testimony, page 13, line 20 through page 14, line 9, which discusses how work related to Budget Line F – Hydrants and Valves is associated with the replacement of aging mains. Explain whether the hydrants and valves to be replaced are located on aging mains that are planned to be replaced through Budget Line B – QIP Mains Replaced/Restored (Budget Line B) or Budget Line C – Mains Unscheduled (Budget Line C) projects included in this filing or whether the hydrants and valves are unrelated to the Budget Line B and Budget Line C projects included in this filing.

Response:

The work associated with budget line F is not located on either a budget Line B or C project. However, aging main is replaced as part of the work for all three of these budget lines and that is why KAW believes budget line F work includes main replacement. As detailed in Stafford Direct Testimony, page 13, the leaking, broken and obsolete valves and hydrants replaced under budget line F have reached the end of their useful life. These fittings are typically attached to the same type of cast iron and galvanized mains being replaced as part of budget line B projects. When they are replaced, aging main is also replaced as part of the work. For example, when a leaking or broken valve is replaced, sections of main on both side of the valve are also replaced with new main and reconnected to existing pipe. This process not only provides a new valve which can control flow and improved reliability, but it also replaces aging water main and improves resiliency. This is similar to what would occur during the replacement of on a leaking valve under Budget Line C – Unscheduled Mains. However, valve replacement under Budget Line F would occur on a scheduled basis rather than reactive or unscheduled basis like it would occur under Budget Line C.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

21. Refer to the Direct Testimony of Kurt A. Stafford, page 14, line 20 through page 15, line 5, which discusses how work related to Budget Line H – Services Replaced is associated with the replacement of aging mains. Explain whether the services to be replaced are located on aging mains that are planned to be replaced through Budget Line B or Budget Line C projects included in this filing or whether the services to be replaced are unrelated to the Budget Line B and Budget Line C projects included in this filing.

Response:

The work associated with budget line H is not located on either a budget line B or C project. However, aging pipe is replaced as part of the work for all three of these budget lines and that is why KAW believes budget line H work should be included. In Stafford Direct Testimony, pages 14 and 15, it is noted that the age of these service lines typically corresponds to the water main installation date. By replacing these aging services with new pipe, the potential for leakage, failure and further customer service interruptions are greatly reduced. Both aging mains and service lines are exposed to the same modes of failure. As they reach the end of their service life, the likelihood of failure increases as does the probability of leakage which contributes to unaccounted-for water. Replacing these service lines is just as critical to a strong and resilient water system as replacing aging and leaking mains.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Elaine K. Chambers

22. Refer to KAW_DT_EKC_WP_032621, tabs "2021_Depreciation Rates" and "2021_Retirement Ratio."

    a. Explain why QIP 2 Code include different accounts that QIP 1 Code on these tabs.

    b. Explain Kentucky-American's process for determining the annual amount for retirements and the basis for the amount allocated to each retirement account determined on the tab "2021_Retirement Ratio" for the years 2017, 2018 and 2019.

Response:

a. As a result of the Commission's June 17, 2020 Order in Case No, 2020-00027, QIP 1 included only the following categories:

B - mains replaced
C - mains unscheduled

KAW's proposed QIP 2 includes these categories:
B - mains replaced
C - mains unscheduled
F - valves, hydrants and MHs replaced
H - services and laterals replaced

The Company only put a code indicator in the column if the project type is being included in the filing. Because QIP 2 contains more project types, the additional code indicators are included in the composite depreciation rate. The estimate composite depreciation rates will be trued-up to actual depreciation rates, based on the asset types placed in-service, for the reconciliation of QIP 1 and QIP 2.

b. The Company utilized the average of the actual amount of retirements for 2017, 2018 and 2019 to project the retirements in the QIP filing. In the reconciliation, which will be filed in September, 2021, the Company will true up the projection, based on the 3-year averages, to the actual retirements recorded on the company's books and records.

Witness: Kurt A. Stafford

23. Provide the number, broken out by specific project, of hydrants, valves and services that were replaced or are projected to be replaced as part of the projects identified in QIP1. Explain whether the costs for these replacements were included in the overall cost of the project or whether they were included in the costs budgeted to Line Items F and H in the 2020 Capital Improvement Plan.

Response:

The table below outlines the project number of hydrants, valves and service lines replaced as part of QIP Year 1 budget line B projects. The cost of these replacement were included in the overall cost of the project and not in budget line F or H. Replacing these assets during budget line B projects provides numerous benefits to Customers. These benefits include reduced disruption and favorable pricing since construction crews are already working in the area.

QIP Exhibit Map Year 1	Project Name	Projected Hydrants Replaced	Projected Valves Replaced	Projected Services Replaced
A	Versailles Road Phase I	12	4	96
B	Versailles Road Phase II	20	16	70
C	State Street Phase I	4	11	158
D	State Street Phase II	32	4	94
E	Winchester Road	3	15	11
F	Castlewood Phase I	8	24	138
G	Castlewood Phase II	6	10	122

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

24. Provide the number of hydrants, valves and services were replaced in 2020 that were not part of the projects identified in QIP1.

Response:

In 2020, the following number of hydrants, valves and services were replaced outside of QIP approved projects:

Hydrants – 38
Valves – 84
Services - 132

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

25. Provide the number, broken out by specific project, of hydrants, valves and services that are projected to be replaced as part of the projects identified in QIP2. Explain whether the costs for these replacements are included in the overall cost of the project or whether the costs are the included in the costs budgeted to Line Items F and H in 2021 and 2022 Capital Improvement Plan.

Response:

The table below identifies the number of hydrants, valves and services which are projected to be replaced with each of the projects identified in QIP Year 2. The replacement costs for these items are included the pipeline projects associated with budget line B. Replacing these assets during budget line B projects provides numerous benefits to Customers. These benefits include reduced disruption and favorable pricing since construction crews are already working in the area.

QIP Exhibit Map Year 2	Project Name	Est. Project Total Linear Feet	Proposed Hydrants Replaced	Proposed Valves Replaced	Estimated Services Replaced
A	Fairway Phase I	3,100	3	10	72
B	Wyatt Ave	6,130	8	11	95
C	Bluegrass/Highlawn	2,500	2	3	50
D	Codell Dr	5,250	9	11	97
E	N Ashland/Aurora	4,000	3	9	116
F	National Ave	3,500	5	15	60
G	Whitney/Ash	6,600	8	12	213
H	Clays Mill Road Phase II	6,300	8	30	74
I	Montclair Dr	2,200	2	6	33
J	Summit/Kastle	2,900	3	5	62
K	Valley Farm Dr	5,400	6	13	139
L	Colchester/Barksdale	3,700	6	7	103
M	Campbell Ln	550	1	1	9
N	Westgate/Hamilton Park	3,600	3	7	91
O	Lancelot Ln	2,500	3	9	75
P	Kilrush/Caywood	6,250	8	16	118
Q	Merrimac/Fogo/Crewe	3,400	5	5	52
R	Tisdale/Fraserdale	5,300	5	7	126
S	Montavesta Rd	4,400	5	8	43

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

26. Provide the estimated capital costs and the number, broken out by specific project, of hydrants, valves and services that are projected to be replaced that are not part of the projects identified in QIP 2, but are included in Line Items F and H in this filing.

Response:

Capital costs related to hydrant, valve and service line replacements not included in QIP Year 2 budget line B projects, but included in budget lines F and H for QIP Year 2 are detailed in Stafford Direct Testimony, pages 13, 14 and 15. The total costs for each of these three items are detailed in addition to the estimated number of each projected to be replaced.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

27. Provide the estimated capital costs and the number, broken out by specific project, of hydrants, valves and services that are projected to be replaced over the time period for QIP 2 that are not part of the projects identified in QIP 2 and are not included in the filing in either the projects in QIP 2 or Line Items F and H.

Response:

Aside from budget lines B, C, F and H which were submitted as part of the QIP Year 2 filing, there are two other Recurring Project or RP budget lines which could include hydrant, valve and/or service replacements. These include budget lines A and D. Currently, there are projects for both lines which are in the planning stages and not fully designed. Therefore, a cost estimate related to valves, hydrants and services projected to be replaced during QIP Year 2 is not currently available.

Witness: Elaine K. Chambers

28. Explain in specific detail what the impact is on the QIP for the errors listed in Elaine Chambers' direct testimony.

Response:

Each adjustment is shown in detail along with its calculation on the worksheet tab labelled 2021 Adjustments to QIP 1 in the Excel file named KAW_DT_EKC_WP_032621. The Company adjusted the amount requested in QIP2 to reflect these errors and changes from QIP1, so the amount of the request for QIP2 is lower than it would have been absent the errors and changes. The Company believes it is appropriate to adjust for these errors and changes in this filing instead of waiting for the September 2021 reconciliation filing since they were found while preparing QIP2. There are 5 adjustments and changes detailed on the tab:

a. Adjustment 1 Update to retirement ratio used in QIP1 filing - $217,861. The retirement ratio used in the the Company's May 28, 2020 response to Item No. 4 of Staff's Second Set of Post-Hearing Data Requests incorrectly had categories for assets other than mains. The Commission's request was to only include mains. The correct retirement ratio for mains only resulted in retirements of $377,357. The incorrect retirement ratio resulted in retirements of $595,218. The difference of $217,861 has been included in the QIP2 request as a reduction as shown on lines 3 and 8 of the workbook sheet labelled 2021_QIP Revenues.
b. Adjustment 2 Update to Composite Depreciation Rate used in QIP1 Filing - $47,822. The composite depreciation rate used in the Company's May 28, 2020 response to Item No. 4 of Staff's Second Set of Post-Hearing Data Requests inadvertently had categories for assets other than mains. The Commission's request was to only include mains. The correct composite depreciation rate for mains only resulted in depreciation of $119,169. The incorrect composite depreciation rate resulted in retirements of $167,791. The difference of $47,822 has been included in the QIP2 request as a reduction as shown on lines 10 and 22 of the workbook sheet labelled 2021_QIP Revenues.
c. Adjustment 3 Additional Year of Depreciation Expense for QIP1 UPIS - $119,969. Although this was not an error, there would be an additional year of depreciation expense for QIP1 to be accounted for when computing QIP2. The amount of $119,969 is included in the QIP2 request as shown on line 9 in the QIP2 column of the workbook sheet labelled 2021_QIP Revenues.

d. Adjustment 4 Update to Calculation of Property Tax used in QIP1 Filing - $2,505. Based on Adjustment 1 to the retirement ratio discussed above, net plant was increased by $217,861 to $7,841,143. Taking this corrected net plant of $7,841,143 times the property tax percentage of 1.15% results in an increase of $2,505 as shown on line 25 of the workbook sheet labelled 2021_QIP Revenues.
e. Adjustment 5 Update for Tax Repairs % on transmission plant and book depreciation rate in deferred tax calculation for QIP1 - $418,413. The tax repair rate of 41.49% used in the Company's May 28, 2020 response to Item No. 4 of Staff's Second Set of Post-Hearing Data Requests incorrectly had non-transmission plant in the rate. The 5-year average tax repair % for mains (transmission plant) is 61.32%. The increase in the tax repairs % increased the ending balance of deferred taxes from $993,413 as filed in QIP1 to $1,411,826 as corrected, which is an increase of $418,413 in deferred taxes as shown on line 16 of the workbook sheet labelled 2021_QIP Revenues.

Again, all of the adjustments and changes listed above were included in the calculation of QIP2, so the amount requested for QIP2 was decreased based on these adjustments as described above.

Witness: Elaine K. Chambers

29. Explain whether Kentucky-American intends to correct for the errors listed in the true-up of QIP 1 due to be filed in September 2021.

Response:

No. As explained in the response to Item 28 and in Ms. Chambers' direct testimony, all of the errors found for QIP1 were corrected in the requested amount for QIP2, so the requested amount for QIP2 was lowered as a result of the true ups for the errors in QIP1. Absent these errors, the requested amount for QIP2 would have been larger. In the reconciliation filing in September 2021, items that were projected in the QIP1 filing will be trued up to actual amounts per the books.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2021-00090
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Kurt A. Stafford

30. Provide a copy of the entire Capital Improvement Plan projected for the time period of QIP 2.

Response:

KAW_R_PSCRDR1_NUM030_041621_Attachment shows the estimated Strategic Capital Expenditures Plan for QIP Year 2.

Estimated Strategic Capital Expenditure Plan for QIP Year 2

Project ID	Project Title	
	RECURRING PROJECTS	**Total**
DV	**Projects Funded by Others**	$2,500,000
A	Mains - New	$685,240
B	Mains - Replaced / Restored	$706,958
B2	Mains - Replaced / Restored (QIP Projects)	$19,700,000
C	Mains - Unscheduled	$981,000
D	Mains - Relocated	$401,754
E	Hydrants, Valves, and Manholes - New	$297,573
F	Hydrants, Valves, and Manholes - Replaced	$800,000
G	Services and Laterals - New	$876,172
H	Services and Laterals - Replaced	$530,000
I	Meters - New	$841,740
J	Meters - Replaced	$2,470,683
K	ITS Equipment and Systems	$353,940
L	SCADA Equipment and Systems	$644,245
M	Security Equipment and Systems	$487,352
N	Offices and Operations Centers	$244,436
O	Vehicles	$1,124,158
P	Tools and Equipment	$308,410
Q	Process Plant Facilities and Equipment	$1,627,486
S	Engineering Studies	$75,000
	INVESTMENT PROJECTS	
I12-02xxxx	Ford Hampton Booster Station & Tank	$708,033
I12-02xxxx	Distribution Yard Improvements	$221,995
I12-020106	RRS High Svc Pump #6	$205,565

COST OF REMOVAL

	RECURRING PROJECTS	**Total**
A	Mains - New	$0
B	Mains - Replaced / Restored	$70,696
B2	Mains - Replaced / Restored (QIP Projects)	$1,970,000
C	Mains - Unscheduled	$215,820
D	Mains - Relocated	$40,175
E	Hydrants, Valves, and Manholes - New	$0
F	Hydrants, Valves, and Manholes - Replaced	$248,000
G	Services and Laterals - New	$0
H	Services and Laterals - Replaced	$164,300
I	Meters - New	$0
J	Meters - Replaced	$321,189
K	ITS Equipment and Systems	$0
L	SCADA Equipment and Systems	$0
M	Security Equipment and Systems	$0
N	Offices and Operations Centers	$0
O	Vehicles	$0
P	Tools and Equipment	$0
Q	Process Plant Facilities and Equipment	$162,749
S	Engineering Studies	$0
	INVESTMENT PROJECTS	
I12-02xxxx	Ford Hampton Booster Station & Tank	$0
I12-02xxxx	Distribution Yard Improvements	$0
I12-020106	RRS High Svc Pump #6	$15,000