City of Leavenworth, Kansas

January 1, 2017 – December 31, 2017

Kansas Permit No: M-MO12-SN01

Federal Permit No: KSR044011

February 28, 2018

RESOLUTION NO. B-2189

BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF LEAVENWORTH, KANSAS, AS FOLLOWS:

SECTION 1: The 2017 Annual Report for Stormwater reflects the direction, efforts and accomplishments by City of Leavenworth for calendar year 2017. It shall be an official record of these actions to meet the requirements of KDHE for an Annual Report until or unless changed by official action.

PASSED AND APPROVED This 27th Day of February, 2018.

{Seal}

SEAL OF THE CITY OF LEAVENWORTH CORPORATE SEAL KANSAS

Mark Preisinger, Mayor

ATTEST:

Carla K. Williamson, CMC, City Clerk

February 28, 2018

Mr. Rance Walker
KDHE Bureau of Water
1000 SW Jackson, Suite 420
Topeka, KS 66612-1367

RE: **2017 KDHE Report on Stormwater**
City of Leavenworth

Please find the following submitted for compliance with 2017 Annual Report for Stormwater

1. CD containing final report with signed certification.
2. CD containing PDF file of Leavenworth stormwater system and outfalls and other structures. Please note there is an early version of the final report on the CD that can be disregarded

Please do not hesitate to call me at 913.684.0375 if you have any questions.

Sincerely,

Michael G. McDonald, P.E.
Director of Public Works

LEAVENWORTH
330 SHAWNEE ST
LEAVENWORTH
KS
66048-9998
1950380593
02/28/2018 (800)275-8777 4:40 PM

Product Description	Sale Qty	Final Price
PM 2-Day Sm Flat Rate Env	1	$6.70
(Domestic)		
(TOPEKA, KS 66612)		
(Flat Rate)		
(Expected Delivery Date)		
(Friday 03/02/2018)		
Certified	1	$3.45
(@@USPS Certified Mail #)		
(70162710000015526810)		
Return Receipt	1	$2.75
(@@USPS Return Receipt #)		
(9590940234357275899958)		
Total		$12.90
Credit Card Remitd		$12.90
(Card Name:VISA)		
(Account #:XXXXXXXXXXXX7201)		
(Approval #:089747)		
(Transaction #:448)		

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YOUR OPINION COUNTS

CITY OF LEAVENWORTH

Kansas Stormwater Annual Report form for
Municipal Separate Storm Sewer Systems (MS4)
January 1, 2017 – December 31, 2017

TABLE OF CONTENTS

Section A
Local Government Information

KANSAS STORMWATER 2017 ANNUAL REPORT FORM FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

Check box if this is a new name, address, phone, etc.

Permittee Information

Permittee (Agency Name) Mailing Address 1: City of Leavenworth ☐

Mailing Address 2: 100 N. 5th Street ☐

City: Leavenworth ☐

State: Kansas

Zip Code: 66048 ☐

MS4 Program Contact Person Michael G. McDonald ☐

Contact E-Mail Address: mmcdonald@firstcity.org ☐

Contact Phone Number: 913-684-0375 X

Construction Issues Contact Person: Mike Hooper X

Contact E-Mail Address: mhooper@firstcity.org X

Contact Phone Number: 913-684-0375 X

Kansas Permit Number: M-MO12-SN01

(Example) M – MC21 – SU01

Reporting Period covers activities from January 1, 2017 through December 31, 2017

This annual report must be submitted to the Kansas Department of Health and Environment (KDHE) by February 28, 2018. This annual report must be submitted as a word or PDF file to KDHE on a standard compact disk (CD). A paper copy of the report may, in addition to the CD, be submitted if the permittee so desires, but it is not required. **In addition**, provide the current copy of the Stormwater Management Program (SMP) Document as a word or PDF file on the CD.

B. Executive Summary

Append an executive summary to this report which briefly covers the major aspects of the MS4 stormwater management program enacted during the year. In completing the executive summary, the preparer should address the following questions:

1. Were there any aspects of the program that appeared especially effective at reducing pollutants in your stormwater discharge?
2. Were there any aspects of the program that provided unsatisfactory results?
3. What was the most successful part of the program?
4. What was the most challenging aspect of the program?
5. Describe any City/County area MS4 clean-ups and the participation.
6. Describe the elected officials' participating in the stormwater pollution elimination.
7. Describe the collaboration with other organizations to eliminate stormwater pollution.
8. If an audit/inspection of your MS4 program was conducted by EPA or KDHE during the year, list the items the audit/inspection report identified as required changes and provide a narrative explanation of how the changed were implemented or explain the plan to implement the changes and identify a target date for final implementation.

The executive summary does not need to be extensive and detailed. It is anticipated the executive summaries will range from one half of a page to two pages in length depending on the scope of the program.

Section B
Executive Summary

SECTION 1: EXECUTIVE SUMMARY

To satisfy the requirements of NPDES permit, this annual report summarizes the City of Leavenworth's plans and actions to reduce the discharge of pollutants from the municipal separate storm sewer system (MS4) to the maximum extent practicable, to protect water quality, and to meet the appropriate water quality requirements of the Clean Water Act. The information contained within this report was obtained through interviews with City staff, review of permits and projects from 2017, and examining communications and publications made available to the citizens of Leavenworth.

City staff communicated the awareness of water quality with efforts in several areas during 2017. These activities continue efforts from previous years including review of the annual report, stormwater guidelines and the "Land Disturbance Permit" (LDP) process. A key addition to the work effort in 2017 was the City Commission discussion regarding implementation of a stormwater fee to fund stormwater construction projects.

There were 21 Commission meetings (study sessions and regular meetings) and two public information meetings during the course of the year. No conclusion on funding amount and collection methods was reached, and review of these matters will continue in 2018.

The importance of construction site runoff control was communicated to developers and contractors through enforcement of the "Land Disturbance Permit" requirement for nearly all construction activities. A schedule of fees was adopted in 2017 for LDPs to reinforce the program. A group meeting with contractors and others was held at City Hall to discuss the program.

The City saw overall reductions in Sanitary Sewer Overflow (SSO) events during 2017 and continued with improved clean-up of SSO situations on both public and private property. The aggressive commercial grease trap inspection program by the building inspectors continued with on-site inspections and review of maintenance records.

The City water quality sampling program for Three- and Five-Mile Creeks continued. Five storms were sampled in 2017. Improvements in staff sampling time were noted although the rapid response of local streams to rainfall creates some timing issues to meet KDHE guidelines. In a broad non-scientific overview of four years of testing data, it appears that water quality is usually diminished as it passes through Leavenworth. Three-Mile Creek generally shows a greater decrease in quality than Five-Mile Creek.

Stormwater quality and runoff control from construction projects continues to be addressed during the planning phase of projects. The Development Review Committee (DRC) provides an informal forum as well as advice and guidance to applicants prior to the detailed design process. Stormwater quantity and quality issues are discussed. The creation of the "Land Disturbance Permit" process includes standard drawings and acknowledgements by owners and/or contractors related to their responsibilities for managing water quality from their site. Requirements related to providing an "Operations and Maintenance Manual" to the owner of any water quality features have been added.

The EPA "Special Environmental Project" (SEP) was completed in 2017. This project near Ottawa Street between 7th Street and Broadway contains several water quality features in addition to the basic design to address neighborhood flooding issues. The project features are being evaluated for possible inclusion in future City and development projects.

One of the least effective parts of the stormwater management plan lies with managing existing BMPs on private developments. Lack of maintenance to detention ponds by Home Owner Associations (HOAs) continues to be a concern by both the HOAs and the City. City staff and City attorney have been working on an approach to improve responses from HOAs although no action has been taken.

City staff performed outreach to owners/operators of current detention ponds in the City during 2017. A mailing was sent out to properties with detention ponds BMPs that contained basic information on maintenance of ponds, and informed them of an upcoming meeting. This informational meeting reviewed owner responsibilities (especially keeping records of their maintenance activities) and City expectations. The meeting was well received with over four attendees and an additional ten contacts via and email/telephone contact. A separate notice on spill plans was distributed in August, 2017.

The inspection and enforcement of the LDP and grease trap regulations continues. As noted previously, while initial compliance is very good, the on-going maintenance and self-inspection of these facilities is lacking. Compliance with City expectations improved in 2017 as the programs became better understood by both staff and citizens.

Efforts to reach out and educate the citizens of Leavenworth through media such as the newspaper, City website and newsletter, the local cable television station (Channel 2), YouTube, Facebook, and Twitter have increased public awareness of environmental issues in general. The meetings regarding the implementation of a stormwater fee generated additional public interest. Staff had contemplated using several small surveys to increase public awareness of stormwater issues, ultimately choosing to rely upon the other media noted above.

The City MS4 program for 2016 was audited by KDHE in October 2017. The results of the audit are included in Appendix F. One minor defect was noted during a site inspection and was corrected the same day. There were no identified concerns that were program related.

Section C-E
Stormwater Management Program

C. Stormwater Management Program

	Yes	No	Not Applicable
	Place a check mark in the appropriate box.		
1. Has the Stormwater Management Program (SMP) been developed?	X		
2. Has the SMP been modified during this reporting period?		X	
3. If the answer to question 2 above was "yes", has the modified SMP been submitted to KDHE for approval?			X

If the answer to item 3 is "No" a copy of the modified SMP must be submitted with this annual report. If it is anticipated a measurable goal cannot be met in the next year the SMP should be modified and submitted to KDHE for approval. The modifications may include different BMPs and/or revised goals to avoid being in a position of non-compliance.

D. Total Maximum Daily Load (TMDL) Best Management Practices

	Yes	No	Not Applicable
	Place a check mark in the appropriate box.		
1. Were any best management practices (BMPs) intended to attenuate the discharge of TMDL regulated pollutants implemented? See your permit to determine if TMDL regulated pollutants are listed for the receiving stream affected by your stormwater system.			X
2. List all of the BMPs intended to attenuate the discharge of TMDL regulated pollutants as identified in the SMP and provide the requested information on the following table on the following pages.			

D. Total Maximum Daily Load (TMDL) Best Management Practices (Table)

BMP ID Number	Brief BMP Description	Regulated TMDL Parameter	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)

E. Stormwater Management Program Requirements (Six Minimum Control Measures)

1. Public Education and Outreach (Table)

List all of the public education and outreach BMPs as identified in the SMP and provide the requested information in the following table (List presentations & media)

BMP ID Number	Brief BMP Description	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)
1.1	Webpage link to stormwater infrastructure information – Master Plan, Management Plan, Map	# Of visitors – Current software unable to isolate detailed information; however, entire site had 253,612 views in 2017	All items are available on-line. Current web page software does not provide detailed page views counts.
1.2	Place documents in public library stormwater infrastructure information – Master Plan, Management Plan, Map	# Check-out requests – Unknown	All items available at the public library. No check-out requests are known.
1.3	Include articles or stories related to stormwater in City newsletter in at least two issues per year	# Articles/Stories – at least six stories for the three issues in 2017 (Goal was minimum of nine stories) # Issues – three issues of City Connection delivered in 2017	Coordination between Public Information Office and Public Works has stories on leaf collection, wastewater issues, adopt a park, etc.
1.4	City-generated posts on social media related to stormwater issues at least ten occurrences per year	# Posts – unable to determine exact number, well in excess of fifty.	Public Information Office interacts with the public on social media on wide range of stormwater-related issues.
1.5	Provide Information to citizens regarding the City of Leavenworth Solid Waste Division.	Distribute trash bags to citizens with proper disposal handout. A new Recycle Coach app was added which affords residents quick access of proper dates of trash pickup, recycling center availability and brush site availability.	A paper insert with solid waste and other City information is provided to the doorstep on nearly all residences twice per year in roll of trash bags.

1.6	Show stormwater information on local cable TV station	Broadcast community forums, in which continued water quality discussions take place. There were 9 City Commission meetings (study sessions and regular meetings) and two public information meetings during the course of the year that specifically discussed stormwater.	Public Information Office broadcasts City Commission Meetings, Planning Commission Meetings and others on City channel cable TV – began live broadcast online in 2017.

2. Public Involvement and Participation (Table)

List all of the public involvement and participation BMPs as identified in the SMP and provide the requested information in the following table (List all associations & partnerships)

BMP ID Number	Brief BMP Description	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)
2.1	Hold public information meetings regarding stormwater issues	Annual review by City Commission of Stormwater Annual Report – YES Review of stormwater projects in annual Capital Improvement Plan - YES	City Commission reviewed KDHE annual stormwater report February 21st, 2017; they were also on TV. City Commission reviewed stormwater projects for CIP in 2017 and approved design and construction of several projects.
2.2	Create an "Adopt a Stream Program"	# Streams adopted - None # Streams cleaned – At least two	City has not created an official "Adopt a Stream" program, but does encourage groups to clean streams. At least two streams were cleaned by groups participating as part of Citywide clean-up or as part of a group activity which included Havens Park, Cody Park and Three-Mile Creek Trail.
2.3	Improve lines of communication with the public through use of website and social media	Integrate contemporary methods of providing and receiving information to the public. - ONGOING	Public Information Office continues a robust social media program for all City issues. Posted Information on other efforts such as detention ponds and such improves as staff skills increase.

2.4	Annual Citywide clean-up program	# Groups – approximately 40 # Participants – 1,056	Citywide clean up continues to increase in number of participants. The Annual Spring Clean-up Program on May 6th which had an increased number of groups totaling 1,056 volunteers from 42 groups who picked up trash throughout the City, which is an increase of number in 2016 when there were 38 groups. (1,263 participants in 2016)
2.5	Customer surveys – conduct at least one survey each year on stormwater related issues in an on-line environment	# of responses – N/A	No survey was conducted in 2017. This is primarily due to internal conflicts related to the purpose of the survey and lack of similar studies performed by others to learn from.
2.6	Encourage groups to participate in activities such as inlet stencil program and similar	# Groups – None # Programs – None	Group participation is encouraged for environmental issues.

3. Illicit Discharge Detection and Elimination

Place a check mark in the appropriate box

Explain each item below in following table.	Yes	No	Not Applicable
1. Has a program/plan been developed and is it presently implemented to detect and address illicit/prohibited discharges into the MS4?	X		
2. Has a map of the MS4 been developed, showing the location of all outfalls, either pipes or open channel drainage, showing names and location of all streams or lakes receiving discharges from the outfalls?	X		
3. The permit requires the permittee enact ordinances, resolutions, or regulations. Has an ordinance, resolution or regulation to prohibit non-stormwater discharges into the storm system been enacted? Effective Date: March 2016 Has the ordinance, resolution or regulation been modified? Effective Date: December 20, 2016	X		
4. Has the ordinance, resolution or regulation and/or modification been submitted to KDHE for approval? ***(Ordinance 8021 INCLUDED in Appendix E to this report, submitted previously in 2016)***	X		
5. Have public employees, business, and the general public been informed of the hazards associated with illegal discharges and improper disposal of waste?	X		
6. Are stormwater inlets & detention ponds inspected for illicit discharges and debris?	X		
7. Are restaurant waste grease areas inspected?	X		
8. Are septic systems inspected?	X		
9. Are debris, yard waste and dead animals removed from the streets when noticed by employees or reported?	X		
10. Is there a yard waste management program?	X		
11. Are snow removal activities inspected?	X		

12. List all of the illicit discharge detection and elimination BMPs as identified in the SMP and provide the requested information in the table on the following pages.

3. Illicit Discharge Detection and Elimination (Table)

BMP ID Number	Brief BMP Description	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)
3.1	Inspect complaints of illicit discharge	Inform public of methods to communicate concerns regarding illicit discharges - YES # Reports investigated – 34 after-hours calls on sewer/storm sewer issues and approximately 20 more from all other sources.	Public Information Officer has created social media space for complaints. 24/7 "real person" phone answering service can dispatch City forces for emergencies.
3.2	Update stormwater outfall maps	Continue efforts to accurately locate and measure existing and new stormwater infrastructure	City maps are updated constantly. The GIS staff and the stormwater crew assist in obtaining accurate measurements and locations. In 2016 the maps were made available online to the public.
3.3	Inspect outfalls	# Outfalls inspected –over 600 inlets and drains were inspected. No specific notation on "outfall"	On-going efforts by the stormwater crew has inspected infrastructure throughout the year as part of their routine work and for the GIS staff.
3.4	Collect yard waste at City composting facility	# Customers: for 2017, Grass – 580, Leaves - 622	City provides free drop off of yard waste for composting. There may be slight overlap with #3.5
3.5	Collect tree and brush debris at brush disposal site	# Customers – 3,974 for 2017. (1,168 on free Saturdays, 2,806 on other days).	City provides a KDHE approved site for drop off of tree and brush debris for disposal through a combination of mulching, composting and burning.
3.6	Collect household hazardous waste (HHW) as part of Citywide clean-up event	# Pounds of household hazardous waste recycled – more than 4,400 lbs.	City residents are directed to Leavenworth County facility during most of the year. Citywide clean up accepts HHW, but it is not weighed separately. In 2017 over 30 customers were serviced.
3.7	Conduct free disposal Saturdays (First Saturday)	# Events - 12 # Tons collected – 229.38	The free Saturdays are well attended; however, volume is not tracked separately for regular refuse and recycling material.
3.8	Staff training	# of staff trained – 10+	At least ten different staff members attended some level of training on stormwater related issues; many on multiple issues.

3.9	Storm sewer maintenance and inspection	Provide dry weather storm sewer inspection. - YES	Two-person crew inspects stormwater structures and works with GIS staff.
3.10	Inspection of sanitary sewer systems	Inspect residential and commercial sanitary systems for improper discharge into storm drains. - YES Inspect sanitary sewer system to reduce number and volume associated with SSO - YES Coordinate SSO events between wastewater staff, building officials and engineering. -YES	City operates CCTV of sewer and storm sewer systems throughout the year. Approximately 5.7 total miles were inspected in 2017. City completed $675,000 in work within the sanitary sewer system to reduce Inflow and Infiltration to and from the storm sewer system. Greatly improved coordination between wastewater staff and building inspection staff on review and resolution of SSO events.
3.11	Commercial grease trap inspection program	Review status of commercial grease traps through record review and physical inspection – YES.	An aggressive grease trap inspection program has improved participation and record keeping from the approximately 60 entities required to have a grease trap. At least three new installations were completed in 2017 as a result of this program.

CITY OF LEAVENWORTH
Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems
January 1, 2017 – December 31, 2017

4. Construction Site Stormwater Runoff Control

Explain each item below in following table.	Yes	No	Not Applicable
	Place a check mark in the appropriate box		
1. The permit requires the permittee to enact ordinances, resolutions or regulations. Has an ordinance, resolutions or regulation to address construction site runoff from new development and redevelopment projects been enacted? Effective Date: December 2016	X		
2. Has a copy of the ordinance, resolution or regulation been submitted to KDHE as required by the permit? ***(Ordinance 8021 INCLUDED in Appendix E to this report, submitted previously in 2016)***		X	
3. Has a procedure or program been developed requiring construction site owners and/or operators to implement appropriate erosion and sediment control best management practices?	X		
4. Has a procedure or program been developed requiring construction site owners and/or operators to control wastes such as discarded building materials, concrete truck washout, chemicals, paint, litter and sanitary waste at construction sites likely to cause adverse impacts to water quality?	X		
5. Has a procedure been developed and implemented requiring site plan review of erosion control and debris container locations incorporating consideration of potential water quality impacts?	X		
6. After review, is a construction site permit issued?	X		
7. Has a procedure been developed for the receipt and consideration of information submitted by the public?	X		
8. Has a procedure been developed and implemented for construction site inspection and enforcement of the control measures?	X		
9. Are construction site inspection and enforcement actions successful?	X		
10. Are site owners and/or operators provided instruction on proper construction site erosion and waste control?	X		
11. List all the construction site stormwater runoff control BMPs as identified in the SMP and provide the requested information in the table on the following pages.			

4. Construction Site Stormwater Runoff Control (Table)

BMP ID Number	Brief BMP Description	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)
4.1	Construction drawing plan review and site runoff control	# Plans reviewed – 24 (construction= 17; development=7) # LDPs issued - 67	All development projects were reviewed related to installation of appropriate BMPs. All construction projects were reviewed to ensure adequate BMPs were included in the work to prevent erosion runoff. 2017 initiated less than 100 square feet LDPs not required. Local utility companies were issued a blanket LDP for the year – for small projects.
4.2	Publish updated standard details and design criteria for erosion control	Make available on-line - YES Review annually with staff – No formal meeting; however staff has met informally throughout the year.	Newly-encountered BMPs resulted in staff discussions and sharing of ideas for proper oversight.
4.3	Staff training on runoff inspection	# Inspectors trained – 10+, see section 3.8	City staff has attended a variety of courses in 2017. City staff shares new information as encountered.
4.4	Inform local contractors of LDP	Annual notification of LDP requirements - YES LDP documents available online - YES	Contractor's LDPs are regularly inspected and contractors are informed of any deficiencies. LDP documents are available online. Contractors notified January 23, 2017 of changes from 2016. Additionally, a contractor informative meeting was held on April 28, 2017
4.5	Pre-construction meetings with owner and contractor - require meetings with owner and contractor prior to commencement of grading operations.	# Meetings – 17	All City-funded projects have a pre-construction conference. Development projects typically meet at the Development Review Committee where BMP requirements are discussed, and then incorporated into the plans. City has no requirement that private development have a pre-con with the City.
4.6	Construction site inspection and enforcement - Increase the frequency of inspections and communications back to owner/contractor	Documentation of inspections - YES	Extensive documentation of site visits (both random and after rainfall) are included in each project file. This includes City and development projects, and individual LDP inspections (such as home construction).

5. Post-Construction Site Stormwater Management in New Development and Redevelopment.

Place a check mark in the appropriate box.

Explain each item below in following table.	Yes	No
1. The permit requires the permittee to enact a program to address post-construction site stormwater runoff from new development and redevelopment. The program developed to manage stormwater in new development and redevelopment projects must include the following elements: a. Strategies which include a combination of structural and/or Non-structural BMPs, b. Measures to ensure adequate long-term operation and maintenance of BMPs, c. Site Owner or operator name and telephone number Responsible to ensure adequate long-term operation Maintenance of BMPs, d. BMPs to prevent or minimize adverse water impacts.		
2. Has a post-construction stormwater runoff program been Implemented?	X	
3. Has post-construction sites been inspected?	X	
4. Have there been post-construction violations? ***(All post construction issues identified were addressed by permit holders)***		X
5. List all the post-construction site stormwater management in new development and redevelopment BMPs as identified in the SMP and provide the requested information in the table on the following pages.		

5. Post-Construction Site Stormwater Management in New Development and Redevelopment Table

BMP ID Number	Brief BMP Description	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)
5.1	Construct sediment vane traps on new and reconstructed inlets	# Inlets - 20	Sediment traps were installed on new and replacement inlets on various projects.
5.2	Protect sensitive areas, such as wetlands and riparian areas through plan review and selected land acqusition from developers and at tax sales	# Tracts acquired from developers - 0 # Tracts from tax sale - 1 # Acres acquired/year – 0.26	City participated in the 2016 tax sale by Leavenworth county and purchased one property. Two requests for the City to sell/donate these types of properties occurred in 2016, one resulted in a donation for landscaping at a local restaurant, the other was rejected (in 2017) for lack of detail.
5.3	Enforce post construction runoff control ordinance	#LDP releases – 27 Documentation of inspection and communication – YES	LDPs are closed out when the danger of off-site erosion has been eliminated though either vegetation or other means. This is documented in the various permits. Several LDPs from 2017 are still open into 2018.
5.4	Conduct long-term BMP maintenance inspections	Documentation of inspection and communication - YES	City continues outreach to detention basin owners. Meeting on February 27, 2017 was relatively well attended. This effort will continue and expand. City conducts inspections of selected sites on random, after rainfall, or with depth recording equipment. In 2017 the City requested detention basin owner's inspection reports and action plans for containing contamination spills.
5.6	Analyze existing structural BMP performances at selected sites (particularly detention basins)	# Sites evaluated – 6+	City installed depth recording devices in at least six locations in 2017. This is to facilitate evaluation of performance. Selected graphs and charts are shared informally with interested parties via email.
5.7	Measure rain gauge and creek depth to evaluate flow quantity and duration from at least March – October.	# Rain gauges - 4 # Stream gauges - 2	City continues to maintain rain and creek monitors. The City also collaborates with other local governments on an extended rain gauge network. Selected graphs and charts are shared informally with interested parties via email. (See Appendix C)

6. Municipal Pollution Prevention/Housekeeping

Place a check mark in the appropriate box.

Explain each item below in following table.	Yes	No
1. The permit requires the permittee to enact a program to address Pollution Prevention/Good Housekeeping for Municipal Operations.	X	
2. Has an operation & maintenance program to reduce Pollutant runoff and an audits /inspection program been adopted? ***(Audits and inspections occur, no formal program has been adopted)***		X
3. Has a municipal employee training program been established? ***(All involved employees have been directed to seek appropriate training throughout the year, City also sponsors training)***	X	
4. Are oil, hazardous wastes, chemicals and municipal debris properly deposed?	X	
5. Are snow and ice removal material and chemicals properly managed to prevent runoff?	X	
6. Are municipal streets swept on a regular basis?	X	
7. Are municipal stormwater inlets and drains inspected and cleaned?	X	
8. Are municipal snow piles controlled drainage to prevent runoff pollution?	X	

List all the Municipal Pollution Prevention/Housekeeping BMPs as identified in the SMP and provide the requested information on the table on the following pages.

7. *PHASE I OPERATORS ONLY* - Monitoring Industrial and High Risk Run-Off

N/A – City is Phase II

Place a check mark in the appropriate box.

	Yes	No
1. Has the permittee developed and maintained a list of the municipal industrial facilities contributing to the pollutant loading to the municipal storm sewer system?		
2. Has at least two municipal industrial facilities on the list had inspection and sampling conducted?		

If the answer to items 1 an 2 is "No" provide a statement on the Phase I operator form Appendix B as to why monitoring and control has not occurred.

Complete Monitoring form in Appendix B.

6. Municipal Pollution Prevention/Housekeeping Table

BMP ID Number	Brief BMP Description	Measurable Goal(s)	Progress Achieving Goal(s) (Measured Result)
6.1	Review City facilities for water quality concerns and develop plans to address them, goal is at least three facilities per year	# Reports prepared: No reports prepared in 2017. City focused on water quality in parking lot projects.	City constructed a substation at the 200 block of Cherokee.
6.2	Street sweeping program – goal is residential areas three times per year and collector/arterial streets once per month (8 months)	# Times completed residential area sweeping – average of 8 # Times completed collector/arterial sweeping – 5 # Hours sweeping – 1,561 # Miles of streets swept – 1,200 (estimated) # Pounds of debris removed – 338.99 tons	Aggressive street sweeping program operates all year, weather permitting. There are two sweepers.
6.3	Snow removal operations - use ground speed control and GPS equipment to keep salt use within guidelines	# Tons of salt used per year - 364 # Pounds per lane mile per storm – 370 lbs/lane-mile average for 2017	Use of ground speed control continues to result in relatively stable application rates of 300-350 lbs/lane-mile for several years.
6.4	Stormwater inlet cleaning	# Inlets – 1200+	Stormwater crew inspected and/or maintained in excess of 1200 inlets, areas drains and other stormwater facilities.
6.5	Continue Citywide leaf collection program (currently one-half of City each year)	# Loads – 50 loads (est. 1000cy)	City continues to offer free leaf vacuuming for one-half of the City each year (alternating halves).

Section F, Items 1-5
Record Keeping and Reporting

F. Recordkeeping and Reporting

Attach a report which addresses the following subjects:

1. A general assessment of the appropriateness of the various BMPs included for each of the major program elements as follows:
   a. TMDL regulated pollutants
   b. Public Education and Outreach
   c. Public Involvement and Participation
   d. Illicit Discharge Detection and Elimination
   e. Construction Site Stormwater Runoff Control
   f. Post-Construction Site Stormwater Management in New Development and Redevelopment
   g. Pollution Prevention/Good Housekeeping for Municipal Operations
   h. A map of surface water sampling locations with an information table is to be attached with this report (if surface water monitoring is required by the permit). An example map and table is included with this report to illustrate the preferred method of completion.

Issues which may be addressed include:

   a. Are the BMPs appropriate for the local population?
   b. Are the BMPs appropriate for the pollution sources?
   c. Are there specific concerns related to the local receiving waters that may justify a change in BMPs?

2. An assessment of the effectiveness of the BMPs towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP).

3. Provide a summary of results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the SMP.

4. Provide a summary of the planned changes in stormwater activities which are scheduled to be undertaken during the next annual reporting cycle. This should address the implementation of new BMPs and/or the deletion of BMPs and include a projected schedule for the month or quarter when the BMP will be either implemented or discontinued. Please note a revised SMP should be submitted for KDHE review if BMPs are revised.

5. Provide a list of other municipalities/contractors, if any, which will be responsible for implementing any of the program areas of the SMP.

Section F: Recordkeeping and Reporting

1. ***A general assessment of the appropriateness of the various BMPs included for each of the major program elements as follows:***

   a. **TMDL Regulated Pollutants.** Not Applicable. City of Leavenworth is a Phase II City and does not have any TMDL requirements.

   b. **Public Education and Outreach.** Stormwater information is disseminated to the public through numerous channels such as the City newsletter, press releases, posting documents on the City website, placing reference material at the public library and several social media platforms. Social media platforms used by the Public Information Officer (PIO) include Facebook, Twitter, and YouTube in the effort to reach a larger population in a timely manner. Considering all of these avenues to reach the public, the City's attempt to provide its citizens with updated material is very effective. An update of several projects with videos and information was completed in 2017. New promotional videos would increase the effectiveness of this means of communication. A review of materials placed at the library showed that there had been little to no use of them. The participation of the City at Leavenworth High School on Earth Day with sewer cleaning and TV equipment and information was well received.

   c. **Public Involvement and Participation.** The City engages the public by calling for volunteers to work on local initiatives through the several lines of communication discussed earlier. The Annual Spring Clean Up has been effective in reducing pollution as well increasing the public awareness of stormwater BMPs and other City programs.

      Free drop off of large items on Free Saturdays continues to be a popular program. Calls for civic organizations to clean and make improvements to City parks throughout the year are being made through an established Adopt-a-Park program with 19 parks currently adopted; to include an additional park that was added in 2017. Arbor Day is observed yearly and the City continues to be part of the Tree City USA program. Brochures and newsletters are published throughout the year that includes code enforcement information and more information about any discarded debris and the proper place to discard it.

      City receives occasional calls from groups such as Boy Scouts related to public service projects. There were no known inquiries in 2017.

Related activities in 2017 included:

- The Annual Spring Clean-up Program on May 6th which had an increased number of groups (42) with 1,056 participants who picked up trash throughout the City.
- In 2017, the City of Leavenworth began a major information campaign with Recycle Coach to inform residents about proper dates of trash pickup, recycling center availability and brush site availability. Research shows that our low income residents often access the internet via smartphone, and the new (free) Recycle Coach app will give all residents the same information. The information in the app is what is already provided in the Solid Waste Printable Flyer, but more easily readable in a digital format. Residents can type in their address and see on a calendar when their trash pickup will be. They can also sign up for reminders for changes in the trash pickup schedule. Between its launch in October and the end of 2017, there were 196 subscribers, 939 total users and 1,915 total resident interactions.
- The Legacy Tree Program saw an additional nine trees planted in 2017, and the City participated in the County-wide clean-up effort during the month of April, 2017.

d. **Illicit Discharge Detection and Elimination.** In order to control improper disposal of waste to the storm sewer system, the City of Leavenworth makes material available through flyers and online regarding household hazardous waste and its proper disposal. Parks Department reports that the "Pick up Your Dog Doo" plan continues to be a very effective at the parks where it has been implemented.

Storm sewers are examined with the City's camera truck which allows for sewer lines to be videotaped and searched for improper connections or line failures. The use of a "Pole Cam" continues to facilitate a much quicker inspection time. The City has completed the storm sewer map and it is available to staff and the public on the GIS system and as a paper map (upon request). Technical information on the map continues to be verified through use of physical inspection and hand-held GPS, particularly to correctly note diameters and locations of storm sewer structures. The final GIS database will include size, horizontal location as well as invert and top elevations for all storm structures and outfalls.

The City has an ongoing cleaning and CCTV program for the sanitary sewer lines. This work has identified several locations that that were repaired as part of the current effort to reduce Inflow and Infiltration.

Staff evaluated the number of creek crossings for periodic inspection. The number of crossings was increased from 26 to 33 for inspection at least three times each year. This includes regularly scheduled inspections as well as after heavy rainfall events. There are an additional 200 crossing locations that are inspected periodically.

The City requirement that all exterior clean-out caps on sanitary sewer lines be "screw caps" rather than "press-on caps" has contributed to the reduced number of Sanitary Sewer Overflow (SSO) events that that release sewer water to the environment.

The City inspection of commercial facilities with grease traps (or who might/should have grease traps) continued in 2017. This program is a combination of inspection and education to ensure that the grease traps are properly maintained which helps to prevent blocked sewer lines, which prevents sanitary sewer water from entering the environment.

City contacted grease trap owners in 2017 with multiple requests for inspection records. While some businesses are able to comply when notified, others have had to be contacted multiple times for results. Several businesses have been physically inspected by City inspectors to verify grease trap operations. In general – the education and awareness portion of the plan seems to be effective; however, routine maintenance of the grease traps varies considerably. On-site inspections were effective in meeting program goals of awareness and education. A summary of this program can be found in Appendix D.

It is likely that additional ordinances specific to grease trap maintenance will be necessary for greater compliance. It will be necessary to coordinate this with other City departments before it can be implemented.

City employees are reminded at staff meetings and safety meetings to report any activity that is questionable to their supervisor and/or the City Engineer Office. An awareness and training session on IDDE issues was held in December 2017, and 16 employees attended.

e. **Construction Site Stormwater Runoff Control.** City implemented a "Land Disturbance Permit" (LDP) in early 2015 and strengthened it in 2016 with the adoption of a fee and fine structure for LDPs and erosion. No changes were made in 2017. The LDP has been very successful ensuring owners and contractors know their responsibilities. It has dramatically reduced erosion and sedimentation from construction sites.

Enforcing the LDP is time consuming during both office and field review requirements. City continues to evaluate several digital alternatives to better manage staff time to ensure the permits are being complied with.

Construction site runoff is generally inspected as follows:

- Work within the right-of-way and/or City-bid projects is inspected by Engineering Staff Technicians on a regular basis.
- Work on private property is inspected by Building Inspections Staff.

Plan review and construction site inspection are the City's first line of defense in protecting water quality in developing areas. The initial planning process for large and small developments includes a formal focus on stormwater quantity, quality and control measures as part of the Development Review Committee meeting with project sponsors and developers. Staff comments on plans reviewed are submitted in writing.

Weekly staff meetings are held in the Public Works office. Review of stormwater issues on current City and developer projects both in the design and construction phase is discussed.

The City guidelines related to stormwater quantity and quality were approved by the City Commission in early 2015. They rely upon the technical work completed in other documents – particularly the MARC BMP Manual, APWA Section 5600 and City of Leavenworth Stormwater Master Plan 1995. These documents are generally accepted by professional engineers and developers as part of the development process. There were no changes in 2017.

City staff has attended a variety of training and educational events to become more effective in addressing the construction site runoff situation. It includes attendance at regional classes, vender demonstrations, and focused training on installation/inspection of erosion control systems.

f. **Post-Construction Site Stormwater Management in New Development and Redevelopment.** City has changed contracting requirements on City-funded projects so that contractors are responsible for landscaping for two years following construction rather than the previous period of one year. This practice ensures that an acceptable grass stand is established in the area to stabilize soils and increase infiltration by reducing runoff velocity.

On developer-funded projects the City requires that the approved plans be followed. This typically requires maintaining erosion control measures until a minimum of revegetation of the site is met, and maintaining all other BMP activity. The associated LDP permit is completed with issuance of a certificate once the post construction measures are fully implemented. The City has increased periodic inspection of post-construction sites to ensure compliance with the regulations by reviewing the status of active projects at weekly staff meetings.

Also, the City continues a program to notify detention pond owners of proper maintenance procedures and requirements. This program needs to be more aggressively pursued to be effective. It is expected that notification of maintenance requirements will be expanded to address other project specific BMPs in the future. Example letters can be found at Appendix D.

The increased visibility of inspection efforts and the requirement that BMP maintenance information be provided to the owner of projects has resulted in better compliance with the regulations.

g. **Pollution Prevention/Good Housekeeping for Municipal Operations.** The leaf collection program each fall (curbside pick-up is one-half of the City each year), more efficient application of salt and sand to the roadways through better equipment, street sweeping operations, and extended sweeping season are all effective in decreasing pollutants from entering the storm sewer system.

Beyond these steps the City has two full-time employees dedicated to the cleaning of storm inlet structures with a vacuum truck (and occasional augmentation from other workers). Over 600 inlets were inspected and openings cleaned in 2017, and an additional 300 visited by the GPS locating crew.

Water Pollution Control dye tests 33 creek crossing every quarter for an annual total of 132. WPC is working with our GIS department and have identified over 200 creek crossings. WPC will inspect each creek crossing as we clean quarter sections within the City of Leavenworth.

The addition of the ground speed control systems on the spreaders has improved consistency of application rates and they remain within the recommended rates of application. The street sweeping program has exceeded performance standards. City ensures chemicals (including salt) are stored in covered facilities, and that all personnel using herbicides/pesticides are trained appropriately. The City offers free disposal of grass and leaves, and free drop-off of recyclable goods is available.

City continues to evaluate the performance of Special Environmental Project (SEP) installed as part of the EPA settlement in 2016 (completed in 2017). The inlets are intended to collect pollutants from small rain events and allow them to degrade through exposure to sunlight and/or infiltration through buried media to improve water quality. The inlets will also collect roadside trash and debris requiring additional maintenance effort on the part of the City. The performance of these inlets will be monitored for possible inclusion on other projects.

City staff reviewed the general state of water quality management selected City facilities in late 2017. The following were identified and action taken:

- The berm surrounding the snow disposal area used when snow is trucked from the downtown area had been repaired.
- The salt/sand operational area at the Municipal Service Center area was evaluated for functionality of containment of run-off from storage and truck loading. In general the site functions well, but substantial degradation of creek banks from erosion was noticed. City forces cleared vegetation that obstructed the view of the creek and installed silt fence.
    - A project that will improve water quality for the salt/sand area and reduce erosion of the creek banks was not constructed in 2017.

- Adjustments to operational issues and storage locations of materials resulted in the need for a better tarp system for stockpiles which was installed.

- Parking areas at the public library lend themselves to relatively simple modifications to improve water quality of the runoff. No improvements at this location were constructed in 2017.
- Substantial water quality improvements were included in a project for reconstruction of a parking lot in 200 Block of Cherokee including grass strips, eco-friendly bio-retention storm inlets, and appropriate vegetative plantings. This work was partially completed in 2017.

Inspection of selected City facilities indicated that a greater effort needs to be in place to evaluate ALL City facilities. Additional facilities will be evaluated in 2018.

Further Discussion of BMPs in general

City opinion is that the BMP approach to the current level of stormwater activity in Leavenworth is entirely appropriate. They address the main concerns of the city: water quantity, water quality and construction site run-off. The implementation of the LDP has improved erosion and runoff during and after construction on many projects. The aggressive street sweeping program catches much of the salt and sand from winter operations before the spring rains. Grease trap and detention basin inspection are important programs. Staff is aware of the significance of the stormwater issues reviewed by KDHE and seeks to ensure compliance by having an empowered staff and opportunities for the public to comment or become involved.

The paragraph above notes that the BMPs are appropriate to the City. The current Stormwater Management Plan was not updated in 2017.

2. ***An assessment of the effectiveness of the BMPs towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP).***

The City of Leavenworth has evaluated the functionality of various types of BMPs in Leavenworth while preparing for the adoption of an updated stormwater design manual. BMP overall effectiveness, economy, and general upkeep needs will drive BMP selection on future developments in Leavenworth. For instance, most in-situ soils in Leavenworth have low permeability which has led the Public Works staff to favor BMPs focused more on pollutant removal rather than stormwater infiltration. Recently constructed detention basins and bank stabilization projects have proven stable in normal rains.

The storm of July 6th 2015 (3"-4" of rain in an hour) did damage to bank protection rip-rap on Five-Mile Creek at the treatment plant, and Three-Mile Creek between Esplanade and 2nd Street. The Five-Mile Creek erosion was repaired in 2016 and has not been disturbed by subsequent rainfall events. The bank erosion on Three-Mile Creek between Esplanade and 2nd Street is the subject of a joint OneGas and City project currently under construction expected to be completed in early 2018.

The successful operation of ground speed control on salt spreaders and performance of the street sweeping program has improved water quality of discharges to the creeks and rivers.

The increased focus on the construction site monitoring program has been generally effective. The City is seeking more effective methods to efficiently inspect these permits.

The increased numbers of programs and greater inspection efforts have improved water quality. It is clear that without additional enforcement options there is minimal effort on the part of owners and contractors on complying with record keeping. Efforts in 2018 will be to continue seeking better ordinances with fees and fines related to compliance in these areas.

3. ***Provide a summary of results of information collected and analyzed, if any, during the reporting period used to assess the success of the SMP.***

Stormwater from the MS4 has been tested during five events in 2017. Additional testing in selected detention basins and over the winter months has occurred as well.
Stream Testing dates in 2017 are shown below:

- March 29th
- April 5th
- July 27th
- August 5th
- October 22nd

A summary of the results is included in the Appendix A along with several graphs and charts in Appendix C. The City also monitored several detention basins to evaluate performance. This information is communicated back to the designer in most cases, and adjustments made if necessary to the outfall structure.

In general the City observed the following during this process:

1. **The stream stage is extremely sensitive to rainfall intensity and duration.** It was difficult to have all of the samples taken during a "rising stream" stage. A brief report summarizing these observations is included in Appendix C. Key concerns are:
    a. It will require substantial investment in equipment and staffing to operate a testing environment that can reliably take samples in rising stream stages.
    b. City has not performed a literature search to determine if water quality is known to vary between rising and falling stages

2. **Measuring stream volume is difficult**. City has used manual methods and "stage-discharge" charts to estimate volume while sampling. There are significant differences between the methods. A brief report summarizing these concerns is included with this Appendix C.

3. **Differences in water quality data are difficult to interpret**. A very simplistic analysis shows that in 2014 water quality was improved by flowing through the City of Leavenworth. This was NOT TRUE in 2015, 2016, nor 2017. Data show that water generally degraded as it passed through Leavenworth. The tables show generally greater degradation in Three-Mile Creek than Five-Mile Creek. The detailed information has been submitted to KDHE electronically prior to January 1, 2018.

CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems

January 1, 2017 – December 31, 2017

Three Mile Creek - 4 event 2014	NC/Better	Worse
Total Phosphorus	1	3
Ortho Phosphate	0	2
Nitrate+Nitrite	2	2
Total Kjeldahl Nitrogen	2	2
Total Suspended Solids	3	1
Turbidity	4	0
E.Coli		
	12	10

Five-Mile Creek - 4 event 2014	NC/Better	Worse
Total Phosphorus	3	1
Ortho Phosphate	2	0
Nitrate+Nitrite	0	4
Total Kjeldahl Nitrogen	4	0
Total Suspended Solids	2	2
Turbidity	2	2
E.Coli		
	13	9

Three Mile Creek - 6 event 2015	NC/Better	Worse
Total Phosphorus	1	5
Ortho Phosphate	3	3
Nitrate+Nitrite	2	4
Total Kjeldahl Nitrogen	3	3
Total Suspended Solids	3	3
Turbidity	2	4
E.Coli	0	6
	14	28

Five-Mile Creek - 6 event 2015	NC/Better	Worse
Total Phosphorus	2	4
Ortho Phosphate	5	1
Nitrate+Nitrite	0	6
Total Kjeldahl Nitrogen	4	2
Total Suspended Solids	2	4
Turbidity	3	3
E.Coli	5	1
	21	21

Three Mile Creek - 6 event 2016	NC/Better	Worse
Total Phosphorus	0	6
Ortho Phosphate	2	4
Nitrate+Nitrite	3	3
Total Kjeldahl Nitrogen	0	6
Total Suspended Solids	0	6
Turbidity	2	4
E.Coli	0	6
	7	35

Five-Mile Creek - 6 event 2016	NC/Better	Worse
Total Phosphorus	2	4
Ortho Phosphate	3	3
Nitrate+Nitrite	3	3
Total Kjeldahl Nitrogen	1	5
Total Suspended Solids	2	4
Turbidity	3	3
E.Coli	3	3
	17	25

Three Mile Creek - 5 event 2017	NC/Better	Worse
Total Phosphorus	1	4
Ortho Phosphate	1	4
Nitrate+Nitrite	1	4
Total Kjeldahl Nitrogen	1	4
Total Suspended Solids	1	4
Turbidity	1	4
E.Coli	1	4
	7	28

Five-Mile Creek - 5 event 2017	NC/Better	Worse
Total Phosphorus	0	5
Ortho Phosphate	1	4
Nitrate+Nitrite	1	4
Total Kjeldahl Nitrogen	2	3
Total Suspended Solids	2	3
Turbidity	2	3
E.Coli	1	4
	9	26

4. ***Provide a summary of the planned minor changes in stormwater activities to accomplish the SMP designated goals that are scheduled to be undertaken during the next annual reporting cycle.***

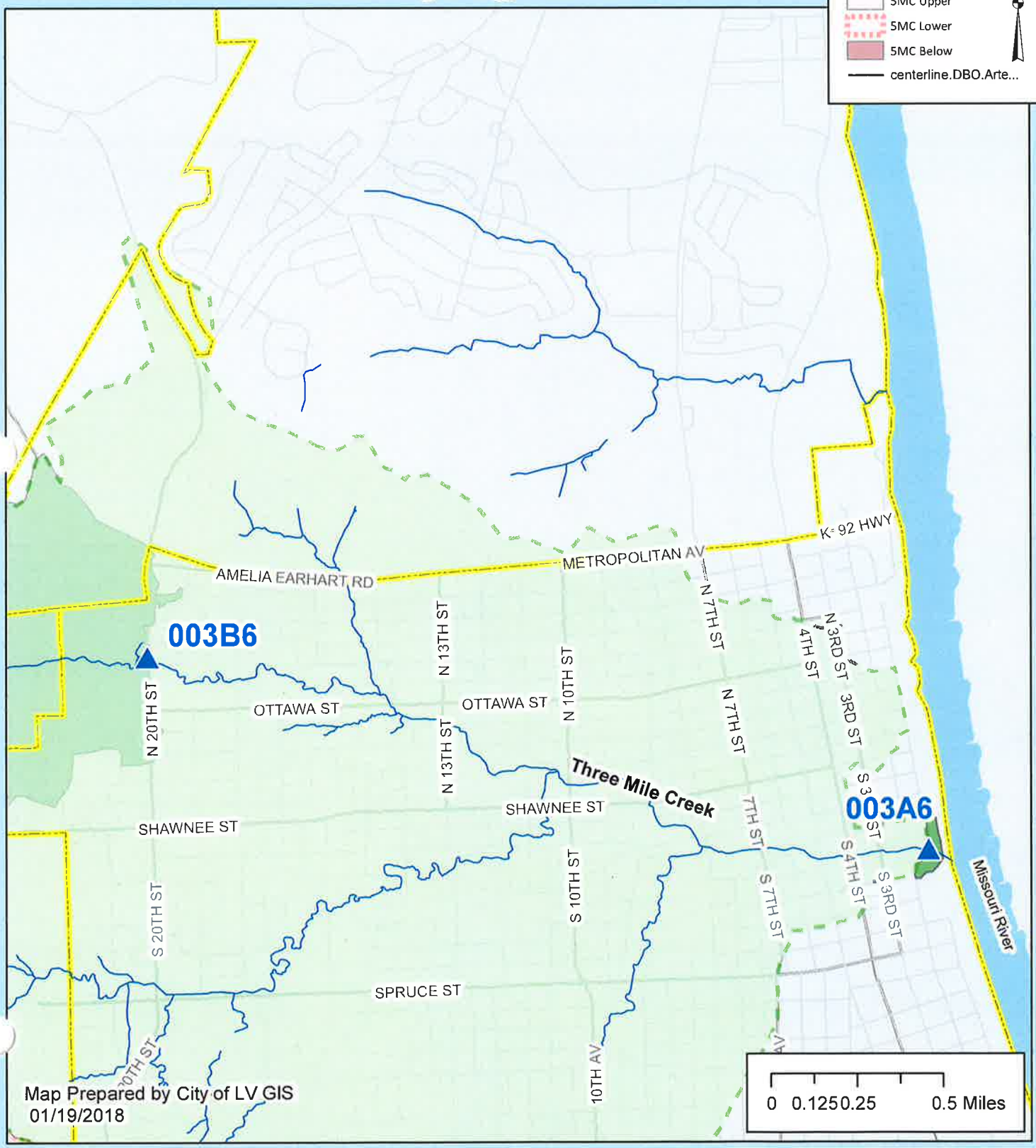
   The City expects to perform the following changes in 2018:

   1. Consider modifications to the Stormwater Management Program.
   2. Consider revisions to the "Stormwater Guidelines" especially related to effective implementation, and consider revisions to the fee and fine schedule.
   3. City will continue to evaluate methods and equipment to improve sampling program and to provide relevant information.
   4. City will continue to observe performance of selected detention ponds and related facilities during the heavy rainfall season. City will evaluate hardware and software to create some level of automation related to stream stage and sampling.
   5. Expand awareness of BMP maintenance expectations and requirements.
   6. Increase staff training related to construction site inspection and post construction inspection activities throughout the year.
   7. Increase exposure of related staff members from building inspection and code enforcement to stormwater issues, especially with illicit discharge issues.
   8. Seek opportunities with community groups to improve awareness of stormwater issues.
   9. Evaluate at least two City facilities for stormwater quality and quantity concerns. Prepare a report with recommendations.

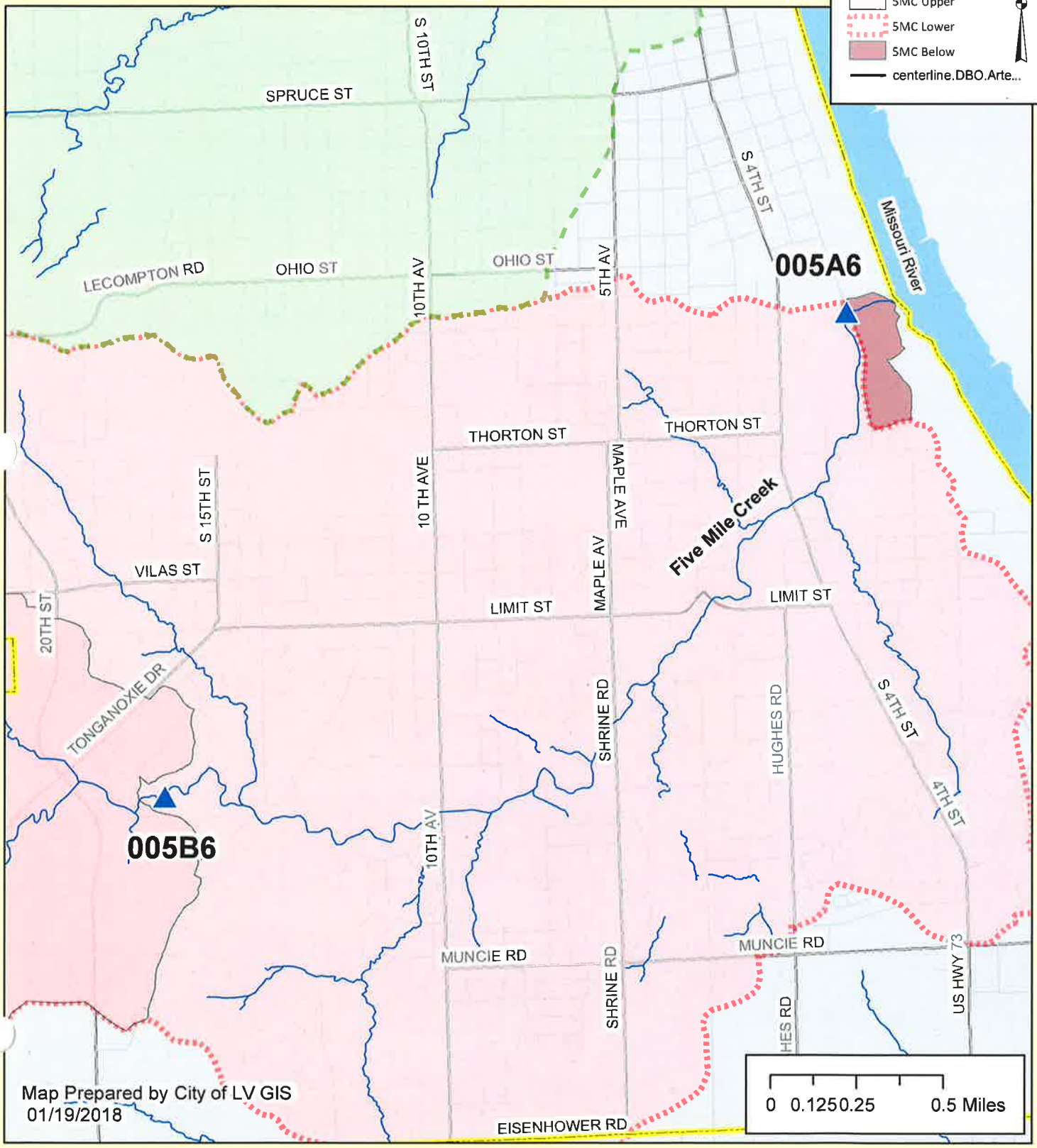
5. ***Provide a list of other municipalities/contractors, if any, which will be responsible for implementing any of the program areas of the SMP.***

   None

City of Leavenworth, KS
Three Mile Creek Sampling Sites



City of Leavenworth, KS
Five Mile Creek Sampling Sites



Section G

Certification

G. Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Permittee: _____ Date Signed: 2-28-18
(Legally responsible person)

Name (printed): Paul Kramer Title: City Manager

40 CFR 122.22 Signatories to permit applications and reports.
(a) Application. All permit applications shall be signed by either a principal executive officer or ranking elected official.

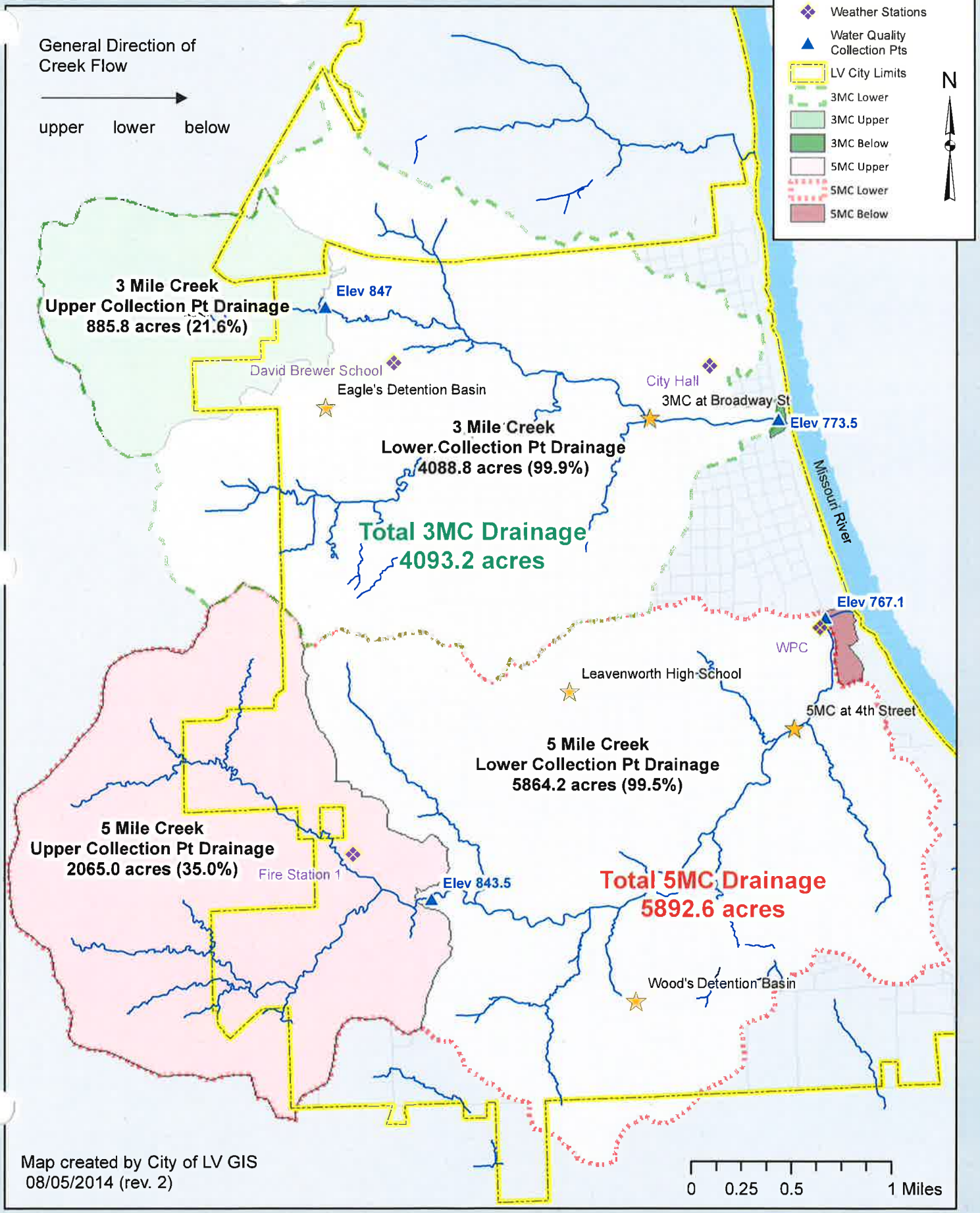
All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person.
Submit this report to:

KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT
Municipal Programs Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367

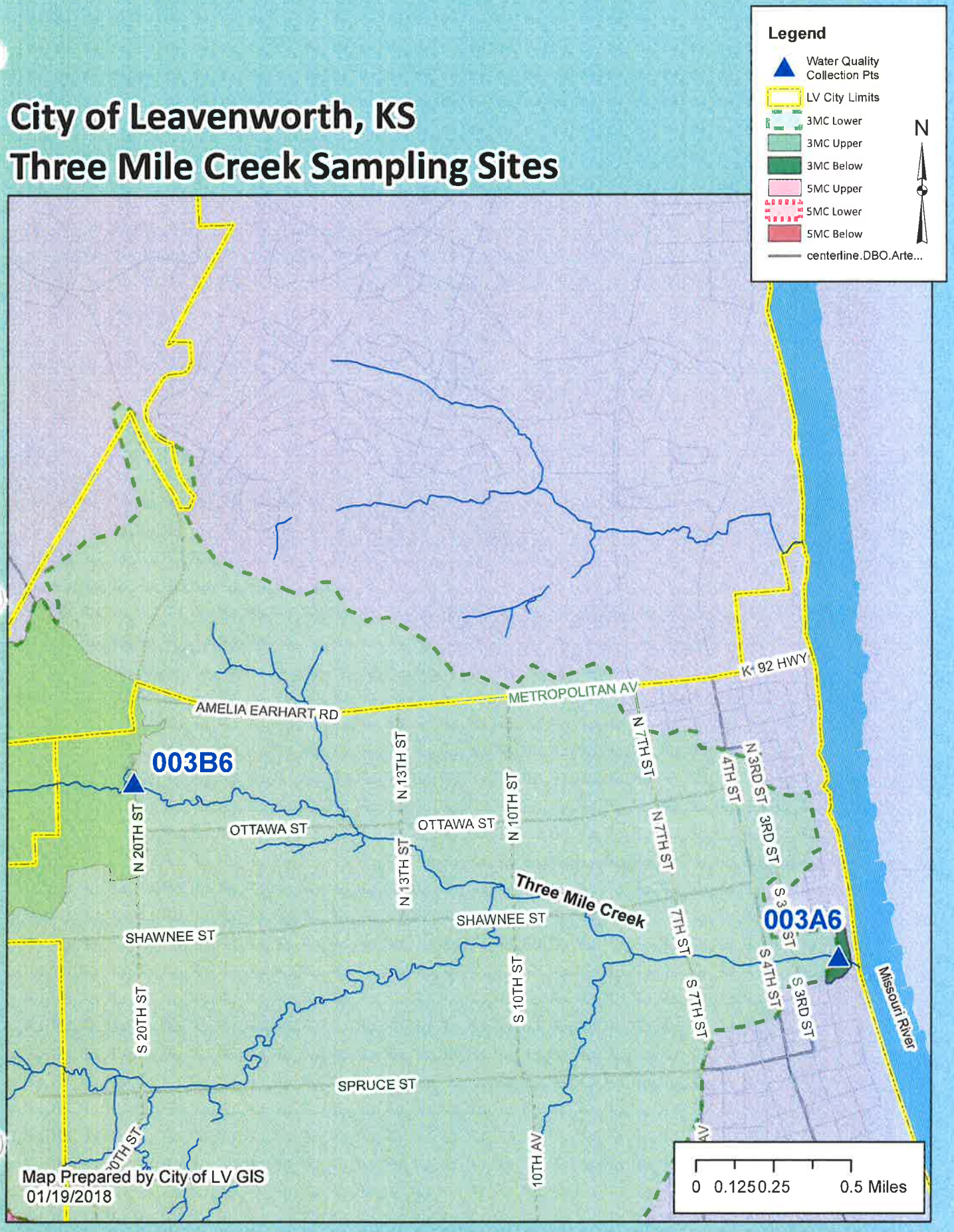
Appendix A
Summary of Sampling Data

- Basin Maps
  - Overall
  - 3-Mile Creek
  - 5-Mile Creek
- Location Detail Coordinates
- Weather Monthly Summary Sheets (City Hall)
- Data Collection Time Summary
- Data Collection Visual Summary
- Summary of Water Quality Data (five storms)

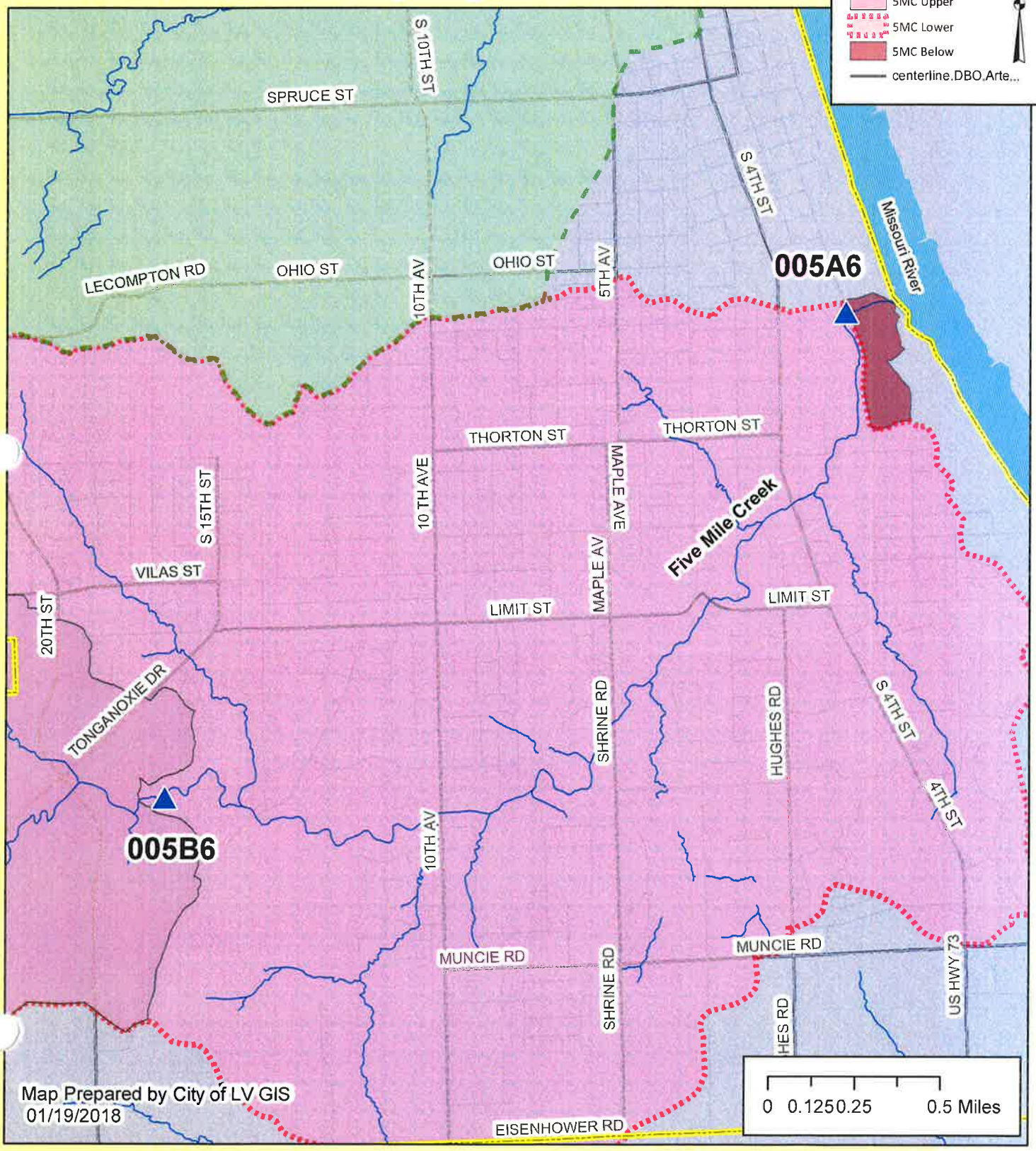
City of Leavenworth, KS
Stormwater Management Data Collection



City of Leavenworth, KS
Three Mile Creek Sampling Sites



City of Leavenworth, KS
Five Mile Creek Sampling Sites



City of Leavenworth, Kansas

Water Quality Collection Points

Location	KS ID	Type	Measurement Location	Elevation	Additional Height	Baseline	LATITUDE	LONGITUDE
5MC West	**005B6**	Deck	@7th vert f/ east upstr edge	843.5	Handrail Elev = 848.3	848.3	39.28160093	-94.94268289
3MC West	**003B6**	Deck	@4th vert f/ north upstr edg	847.0	Handrail Elev = 848.1	848.1	39.32462470	-94.95067177
5MC East	**005A6**	Deck	@5th vert f/ north upstr edg	767.1	Deck Elev = 767.1	767.1	39.30099774	-94.90515459
3MC East	**003A6**	Deck	@4th vert f/ north upstr edg	773.5	Handrail Elev = 777.0	777.0	39.31544044	-94.90893167

Update by City of Leavenworth GIS,February 16, 2018

Kansas FIPS 1501 North (Decimal Degrees)

MONTHLY CLIMATOLOGICAL SUMMARY for JAN. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	32.3	42.9	4:00p	20.6	6:00a	32.7	0.0	0.00	1.9	13.0	5:00p	NNW
2	42.8	47.2	7:00p	36.9	12:45a	22.2	0.0	0.12	1.4	15.0	10:30p	ESE
3	26.9	41.4	12:15a	16.2	12:00m	38.1	0.0	0.00	7.5	30.0	12:15p	NNW
4	14.9	19.2	1:30p	10.9	7:15a	50.1	0.0	0.03	3.9	14.0	12:30a	NNW
5	10.1	14.4	1:00p	4.0	12:00m	54.9	0.0	0.01	4.1	16.0	2:00p	NNW
6	5.8	13.8	4:15p	-1.4	8:45a	59.2	0.0	0.00	2.1	11.0	1:00p	WNW
7	12.5	22.1	4:00p	4.3	3:15a	52.5	0.0	0.00	2.3	14.0	2:15p	WNW
8	22.1	36.1	5:00p	5.6	2:45a	42.9	0.0	0.00	3.8	22.0	2:30p	SE
9	35.6	46.8	4:30p	23.4	5:45a	29.4	0.0	0.00	4.2	22.0	3:15p	S
10	43.3	55.4	8:15a	29.2	11:30p	21.7	0.0	0.01	7.1	35.0	12:45p	WNW
11	37.6	60.8	1:45p	21.1	12:00m	27.4	0.0	0.00	5.0	32.0	11:00a	NNW
12	21.2	27.9	3:00p	16.3	9:30a	43.8	0.0	0.00	4.9	17.0	1:15a	N
13	23.5	26.9	4:00p	19.2	3:45a	41.5	0.0	0.02	4.2	17.0	9:00a	E
14	29.3	34.3	3:30p	26.0	12:15a	35.7	0.0	0.00	1.1	9.0	5:00a	N
15	31.1	32.4	11:45p	29.5	6:45a	33.9	0.0	0.12	1.4	7.0	8:15a	E
16	37.8	46.1	3:45p	32.2	12:15a	27.2	0.0	0.61	1.8	18.0	6:00p	ENE
17	34.6	40.1	4:45p	29.6	11:15p	30.4	0.0	0.00	1.3	18.0	1:15a	W
18	37.7	49.8	4:45p	28.7	7:00a	27.3	0.0	0.00	0.8	11.0	12:30p	SE
19	44.9	48.2	4:00p	39.9	12:15a	20.1	0.0	0.00	0.7	8.0	2:30p	SE
20	47.0	49.5	3:15p	44.4	7:15a	18.0	0.0	0.00	0.4	9.0	10:00p	E
21	46.2	55.0	3:30p	39.9	10:00a	18.8	0.0	0.00	1.7	17.0	6:15a	S
22	39.9	46.7	1:00a	33.7	12:30p	25.1	0.0	0.00	4.5	23.0	5:15p	NNW
23	33.6	40.4	4:30p	29.8	3:45a	31.4	0.0	0.00	1.0	9.0	4:45a	NNW
24	38.0	50.3	3:45p	30.5	3:30a	27.0	0.0	0.05	3.6	17.0	1:15p	E
25	33.5	37.7	2:00a	29.0	12:00m	31.5	0.0	0.00	7.2	30.0	11:15a	W
26	29.3	34.4	3:30p	26.4	5:00a	35.7	0.0	0.00	4.2	18.0	1:30a	WNW
27	33.4	46.5	4:15p	23.4	8:00a	31.6	0.0	0.00	6.2	25.0	1:00p	W
28	37.6	47.6	2:15p	29.9	7:00a	27.4	0.0	0.00	6.9	25.0	2:00p	WNW
29	40.1	48.4	2:15p	33.4	12:00m	24.9	0.0	0.00	5.1	23.0	10:15a	WNW
30	45.8	61.6	4:00p	30.9	4:15a	19.2	0.0	0.00	3.4	29.0	2:30p	W
31	42.9	48.3	12:15a	35.9	7:30a	22.1	0.0	0.00	1.7	14.0	1:15a	N
	32.6	61.6	30	-1.4	6	1003.7	0.0	0.97	3.4	35.0	10	NNW

Max >= 90.0: 0
Max <= 32.0: 6
Min <= 32.0: 23
Min <=   0.0: 1
Max Rain: 0.61 ON 01/16/17
Days of Rain: 6 (>.01 in) 3 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for FEB. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	35.6	40.1	12:15a	27.1	12:00m	29.4	0.0	0.00	5.6	21.0	11:45p	N
2	25.3	30.6	2:15p	19.5	7:45a	39.7	0.0	0.00	5.2	22.0	7:15a	N
3	27.3	36.6	4:15p	22.8	7:00a	37.7	0.0	0.00	2.6	13.0	8:30a	N
4	36.5	48.3	5:00p	25.3	12:15a	28.5	0.0	0.00	7.0	33.0	12:45p	S
5	38.8	47.8	3:30p	30.3	7:45a	26.2	0.0	0.00	1.0	9.0	7:30a	NNW
6	44.6	56.4	5:00p	30.9	7:30a	20.4	0.0	0.00	0.8	12.0	1:00p	SE
7	38.6	51.1	12:15a	27.6	12:00m	26.4	0.0	0.00	5.7	22.0	9:15a	NNW
8	23.6	27.7	12:15a	17.0	12:00m	41.4	0.0	0.00	6.6	28.0	9:30a	NNW
9	24.9	36.3	4:15p	14.9	3:45a	40.1	0.0	0.00	3.3	12.0	12:45a	SE
10	53.5	69.1	4:45p	30.7	1:15a	12.0	0.5	0.00	7.5	32.0	10:30a	SW
11	56.1	64.9	3:45p	46.1	8:00a	8.9	0.0	0.00	1.5	18.0	11:45p	NNW
12	44.2	50.9	4:30p	32.5	12:00m	20.8	0.0	0.00	5.5	27.0	1:45p	NNW
13	40.2	49.3	3:45p	28.7	7:15a	24.8	0.0	0.00	1.2	16.0	12:00p	WNW
14	43.9	54.7	3:45p	34.6	8:00a	21.1	0.0	0.00	3.8	19.0	1:45p	NNW
15	40.5	52.5	4:30p	30.3	7:15a	24.5	0.0	0.00	3.2	21.0	12:30a	NNW
16	54.9	74.5	4:30p	38.5	2:15a	11.7	1.6	0.00	5.6	26.0	1:15p	SW
17	59.2	74.5	4:15p	45.6	7:30a	7.5	1.7	0.00	6.9	24.0	3:00p	SW
18	56.5	71.5	4:15p	41.8	8:00a	9.7	1.2	0.00	0.5	7.0	10:00a	NW
19	60.5	74.3	4:45p	46.9	6:45a	6.7	2.2	0.00	2.8	21.0	3:00p	SSE
20	62.6	68.1	2:15p	57.1	12:00m	2.6	0.2	0.01	5.4	22.0	2:00p	SE
21	57.6	72.5	4:00p	45.0	7:30a	8.6	1.2	0.00	1.8	12.0	2:30a	NNW
22	60.9	80.1	4:30p	44.1	7:00a	7.2	3.1	0.00	3.3	26.0	10:00a	NW
23	51.0	58.7	12:15a	43.7	12:00m	14.0	0.0	0.00	5.7	28.0	12:00m	NE
24	33.7	43.7	12:15a	24.7	11:15p	31.3	0.0	0.00	7.5	28.0	3:45p	WNW
25	31.7	41.9	5:00p	20.9	7:30a	33.3	0.0	0.00	4.0	16.0	12:45a	S
26	41.5	52.1	3:30p	33.3	2:45a	23.5	0.0	0.00	4.7	20.0	8:15a	S
27	46.4	62.7	5:30p	26.2	6:15a	18.6	0.0	0.00	2.7	23.0	11:45a	SE
28	62.1	73.9	4:45p	42.0	11:45p	4.5	1.6	0.00	9.4	32.0	10:30p	SW
	44.7	80.1	22	14.9	9	581.1	13.3	0.01	4.3	33.0	4	NNW

Max >= 90.0: 0
Max <= 32.0: 2
Min <= 32.0: 15
Min <= 0.0: 0
Max Rain: 0.01 ON 02/20/17
Days of Rain: 0 (>.01 in) 0 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	41.6	50.6	3:45p	32.7	12:00m	23.4	0.0	0.00	7.9	33.0	9:00a	NW
2	39.5	53.3	3:00p	25.0	7:00a	25.5	0.0	0.00	4.3	25.0	1:30p	NNW
3	40.9	55.9	5:30p	26.1	6:30a	24.1	0.0	0.00	4.6	24.0	3:00p	SE
4	59.1	69.9	2:30p	44.1	12:15a	6.8	0.9	0.00	10.2	33.0	5:15p	S
5	57.9	61.0	4:45p	54.5	7:15a	7.1	0.0	0.00	10.8	31.0	3:15p	S
6	63.9	76.7	4:45p	46.7	12:00m	4.3	3.2	0.25	15.5	45.0	12:30p	S
7	48.3	59.8	5:00p	38.0	6:00a	16.7	0.0	0.00	7.3	42.0	3:15p	W
8	52.8	68.0	5:00p	38.1	7:45a	12.5	0.3	0.00	2.5	23.0	3:45p	SW
9	47.1	60.0	2:15p	34.3	7:15a	17.9	0.0	0.00	4.1	25.0	12:00m	NNE
10	33.7	40.3	3:30p	26.3	7:15a	31.3	0.0	0.00	6.5	23.0	1:45a	N
11	30.4	33.9	7:00p	25.1	7:15a	34.6	0.0	0.06	3.0	16.0	1:15a	ENE
12	35.0	42.5	9:00p	26.6	7:15a	28.7	0.0	0.00	3.3	22.0	3:30p	SE
13	31.5	41.7	12:15a	25.5	12:00m	33.5	0.0	0.00	8.0	29.0	4:15a	NNW
14	27.3	32.9	6:45p	23.9	6:45a	37.7	0.0	0.00	3.4	15.0	12:45a	N
15	28.3	35.1	4:45p	20.4	7:15a	36.7	0.0	0.00	2.7	14.0	2:30p	SE
16	50.1	68.0	5:15p	31.8	12:30a	15.2	0.3	0.00	5.9	29.0	4:45p	SE
17	61.9	71.9	5:00p	55.4	12:00m	4.3	1.2	0.00	5.2	23.0	12:45p	NNW
18	52.5	64.5	4:15p	40.8	8:15a	12.5	0.0	0.00	2.4	16.0	2:00a	N
19	67.4	87.6	4:15p	50.9	3:00a	5.4	7.8	0.00	5.7	35.0	5:15p	SE
20	69.6	77.6	4:15p	60.0	12:00m	0.4	5.0	0.00	5.1	20.0	12:45a	NNE
21	53.0	60.0	12:15a	44.6	12:00m	12.0	0.0	0.00	7.4	28.0	12:45p	NNE
22	47.1	55.5	5:15p	36.5	8:00a	17.9	0.0	0.00	6.3	22.0	10:00p	E
23	63.9	79.9	4:45p	50.7	1:45a	5.8	4.7	0.00	8.7	34.0	5:00p	SSE
24	64.3	71.0	12:15a	56.3	12:00m	2.4	1.7	0.25	4.1	23.0	5:30a	S
25	48.8	56.3	12:15a	44.1	12:00m	16.2	0.0	0.38	4.4	17.0	9:00a	NNW
26	46.7	51.1	7:15p	43.0	4:00a	18.3	0.0	0.04	2.0	14.0	10:30p	NNW
27	48.7	54.0	6:15p	45.0	2:45a	16.3	0.0	0.56	3.2	14.0	3:00p	N
28	50.9	53.7	3:00p	47.9	7:45a	14.1	0.0	0.00	3.0	19.0	11:45p	ENE
29	51.6	54.9	5:00p	48.6	8:00a	13.4	0.0	1.51	6.3	24.0	10:15a	ENE
30	48.4	53.4	12:15a	44.3	11:15p	16.6	0.0	0.00	1.9	13.0	5:00p	NNW
31	46.2	50.1	6:30p	42.6	8:30a	18.8	0.0	0.00	1.7	10.0	12:30a	N
	48.7	87.6	19	20.4	15	530.4	25.1	3.05	5.4	45.0	6	S

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 9
Min <= 0.0: 0
Max Rain: 1.51 ON 03/29/17
Days of Rain: 7 (>.01 in) 5 (>.1 in) 1 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for APR. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	45.9	50.5	7:00p	41.3	7:45a	19.1	0.0	0.02	1.8	12.0	3:15p	ENE
2	55.4	63.2	4:45p	48.2	12:15a	9.6	0.0	0.00	0.9	7.0	10:00a	ESE
3	55.3	59.7	2:15p	51.0	11:30p	9.7	0.0	1.08	2.3	21.0	3:00p	NNW
4	49.7	52.6	3:45a	47.5	6:30a	15.3	0.0	0.49	1.9	16.0	9:45p	WNW
5	47.3	55.4	4:45p	41.9	9:15a	17.7	0.0	0.53	7.3	36.0	9:00a	N
6	49.6	58.2	4:30p	42.9	12:00m	15.4	0.0	0.00	4.0	27.0	1:30p	NNW
7	51.7	65.6	5:45p	35.3	6:15a	13.3	0.0	0.00	2.9	17.0	1:15p	WNW
8	67.1	76.9	5:45p	55.6	1:45a	2.9	5.0	0.00	8.5	33.0	3:30p	S
9	71.8	79.3	5:45p	65.2	7:30a	0.0	6.8	0.00	10.2	31.0	1:15p	S
10	59.5	70.7	12:30a	43.2	12:00m	6.3	0.9	0.00	8.4	33.0	2:30p	W
11	51.4	66.9	5:30p	39.0	7:30a	13.8	0.1	0.00	2.7	16.0	12:15a	NNW
12	62.1	75.6	5:30p	44.2	6:30a	6.9	4.0	0.00	3.2	22.0	1:30p	S
13	69.2	79.6	4:45p	59.1	5:45a	1.1	5.3	0.00	2.8	17.0	5:15p	S
14	68.9	78.7	5:45p	60.7	7:30a	0.8	4.7	0.25	4.7	29.0	6:00p	S
15	73.2	81.0	3:15p	60.5	12:00m	0.1	8.3	0.40	9.9	32.0	9:15a	S
16	62.3	68.0	4:45p	55.2	11:30p	3.1	0.4	0.18	3.2	26.0	2:15a	NNE
17	61.4	72.9	3:30p	49.7	5:00a	5.6	2.0	0.00	1.9	12.0	2:00p	SE
18	67.4	78.9	5:45p	55.6	6:30a	2.5	4.9	0.00	4.5	21.0	3:45p	S
19	72.8	80.7	3:45p	64.3	7:00a	0.0	7.8	0.00	7.1	33.0	2:00p	S
20	60.6	71.5	12:15a	51.1	6:45a	5.2	0.7	0.20	4.8	18.0	4:15a	NNW
21	51.7	55.2	12:15a	46.3	7:45a	13.3	0.0	0.00	4.8	24.0	3:15p	NE
22	56.6	64.5	5:45p	49.2	7:00a	8.4	0.0	0.00	6.8	25.0	1:45p	NNE
23	57.3	71.4	4:30p	41.0	7:00a	9.0	1.3	0.00	1.4	14.0	6:00p	SW
24	62.8	75.5	5:00p	48.5	5:45a	5.3	3.2	0.00	5.7	33.0	5:15p	S
25	64.6	72.5	4:45p	49.9	12:00m	2.6	2.2	0.01	4.4	21.0	9:45a	S
26	45.5	50.5	4:15p	41.0	8:15a	19.5	0.0	0.09	5.7	21.0	10:15a	NNW
27	51.2	63.4	3:45p	41.9	7:00a	13.8	0.0	0.01	3.9	19.0	12:00p	W
28	50.7	56.6	2:30p	44.3	12:00m	14.3	0.0	0.27	3.7	17.0	6:15p	NNE
29	45.3	48.1	4:30p	43.0	10:45p	19.7	0.0	1.17	6.4	29.0	3:00p	NNE
30	47.2	58.7	3:30p	41.5	5:00a	17.8	0.0	0.48	4.5	24.0	5:15p	S
	57.8	81.0	15	35.3	7	272.1	57.6	5.12	4.7	36.0	5	S

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 1.17 ON 04/29/17
Days of Rain: 12 (>.01 in) 10 (>.1 in) 2 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAY. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	47.5	60.9	6:45p	38.7	9:00a	17.5	0.0	0.01	4.5	36.0	2:00p	W
2	58.4	65.8	1:00p	48.7	12:15a	6.6	0.0	0.00	2.3	16.0	3:00a	NNW
3	51.6	55.8	12:15a	45.4	12:00m	13.4	0.0	0.02	1.8	18.0	10:15a	ENE
4	56.6	68.5	4:30p	42.5	3:00a	9.0	0.6	0.00	4.0	30.0	3:00p	N
5	62.7	76.3	5:45p	48.0	6:45a	5.4	3.1	0.00	2.2	21.0	2:15p	WNW
6	68.0	78.4	4:45p	56.7	12:00m	1.8	4.8	0.00	3.8	22.0	6:00a	ENE
7	67.9	82.6	5:30p	49.5	6:30a	4.3	7.2	0.00	2.4	16.0	3:30p	SE
8	74.3	85.2	3:45p	61.2	6:00a	0.4	9.6	0.00	3.9	23.0	3:00p	SW
9	75.2	86.0	5:15p	62.5	6:45a	0.2	10.4	0.00	4.0	16.0	11:15a	SW
10	72.2	79.3	12:30p	66.2	2:15p	0.0	7.2	0.32	5.3	29.0	1:45p	SW
11	64.7	68.0	12:15a	60.6	9:30a	1.0	0.7	0.02	4.0	18.0	3:15p	NNE
12	64.7	73.9	5:30p	55.3	7:00a	2.8	2.5	0.00	4.3	20.0	12:15p	NNE
13	66.1	79.9	5:00p	48.5	6:30a	4.6	5.8	0.00	3.0	21.0	5:45p	S
14	72.0	84.2	5:30p	58.1	4:45a	1.4	8.4	0.00	6.2	27.0	10:15a	S
15	77.5	89.0	4:45p	65.8	6:30a	0.0	12.5	0.00	7.0	24.0	2:45p	S
16	77.6	85.3	4:45p	69.4	6:15a	0.0	12.6	0.00	9.4	37.0	2:00p	S
17	74.4	79.1	6:00p	67.6	3:00p	0.0	9.4	0.11	9.2	42.0	1:00p	S
18	66.8	77.7	5:15p	57.0	6:30a	1.9	3.7	1.98	3.5	38.0	9:15p	NE
19	63.1	68.4	12:15p	59.0	3:30a	2.5	0.6	0.71	2.7	22.0	12:45a	ENE
20	59.0	62.5	7:45a	52.2	12:00m	6.0	0.0	0.08	3.9	22.0	5:45p	WSW
21	57.1	70.5	6:30p	44.8	6:30a	8.9	1.0	0.00	3.8	24.0	11:30a	W
22	58.5	66.1	2:00p	51.9	1:30a	6.5	0.1	0.36	1.1	18.0	10:30a	SW
23	58.5	65.7	2:45p	53.1	12:00m	6.5	0.0	0.00	1.6	18.0	2:15p	NNW
24	57.0	67.2	5:00p	48.8	4:45a	8.1	0.1	0.00	1.8	17.0	12:15p	N
25	64.0	77.6	4:45p	47.2	6:15a	5.3	4.4	0.00	2.6	20.0	12:00p	SE
26	74.3	85.4	6:00p	62.7	6:45a	0.2	9.3	0.05	1.4	27.0	3:45a	W
27	67.0	74.0	7:30p	60.4	8:45a	0.6	2.6	0.28	1.4	28.0	8:15a	NNW
28	70.3	80.7	5:45p	58.9	6:15a	1.1	6.4	0.00	3.2	23.0	2:30p	NNW
29	70.3	81.1	4:15p	59.5	4:15a	1.2	6.5	0.00	2.3	24.0	8:45a	NNW
30	68.8	82.5	5:30p	52.5	6:45a	2.8	6.7	0.00	1.8	16.0	1:30p	SW
31	70.0	80.3	5:00p	56.1	6:30a	1.9	6.9	0.00	1.6	13.0	5:30p	E
	65.7	89.0	15	38.7	1	121.9	143.1	3.94	3.5	42.0	17	S

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 1.98 ON 05/18/17
Days of Rain: 10 (>.01 in) 6 (>.1 in) 1 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for JUN. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	71.1	80.5	2:30p	63.8	5:45a	0.0	6.1	0.09	2.5	25.0	6:15a	SW
2	76.9	86.9	4:45p	65.8	3:30a	0.0	11.9	0.00	2.2	14.0	12:45p	SE
3	77.5	86.9	5:45p	65.3	6:15a	0.0	12.5	0.00	1.3	15.0	12:30p	SSE
4	75.5	83.1	1:00p	70.2	6:30a	0.0	10.5	0.00	0.8	14.0	1:00p	SE
5	80.3	93.2	4:45p	65.9	6:15a	0.0	15.3	0.00	1.6	14.0	5:00p	SW
6	74.0	81.6	4:15p	66.8	6:15a	0.0	9.0	0.00	2.6	13.0	12:45p	ENE
7	70.7	81.9	5:00p	57.0	6:00a	1.5	7.2	0.00	1.4	19.0	12:15p	ENE
8	71.8	82.8	3:45p	57.1	6:00a	1.5	8.3	0.00	1.7	15.0	3:15p	SW
9	75.6	87.0	5:30p	61.8	5:45a	0.3	10.9	0.00	3.4	18.0	6:15p	S
10	79.1	89.8	4:30p	68.6	6:15a	0.0	14.1	0.00	8.4	28.0	11:15a	S
11	82.1	91.4	4:15p	73.3	6:15a	0.0	17.1	0.00	9.7	32.0	2:15p	S
12	82.9	92.2	5:30p	72.4	6:15a	0.0	17.7	0.00	6.0	26.0	9:45a	S
13	83.4	90.2	4:30p	75.8	6:15a	0.0	18.4	0.00	7.5	31.0	5:00p	SSE
14	82.2	89.1	7:15p	70.6	12:00m	0.0	17.2	0.20	5.3	37.0	6:15a	SW
15	79.8	93.7	4:45p	66.5	5:15a	0.0	14.8	0.16	4.5	48.0	9:15p	S
16	81.5	92.2	4:30p	68.4	6:15a	0.0	16.5	0.04	4.5	27.0	11:45p	S
17	77.9	91.4	6:00p	68.3	4:00a	0.0	12.9	2.24	4.2	43.0	12:30a	SW
18	73.0	81.4	5:00p	65.0	6:30a	0.0	8.0	0.07	3.3	24.0	12:00p	WNW
19	75.7	86.1	3:00p	63.2	2:45a	0.1	10.7	0.00	1.8	17.0	11:15a	W
20	80.8	92.7	5:15p	69.0	4:30a	0.0	15.8	0.00	3.1	17.0	12:30p	SW
21	83.4	93.0	3:45p	74.0	5:45a	0.0	18.4	0.01	5.9	25.0	4:15p	SW
22	81.1	88.7	2:30p	71.7	6:30a	0.0	16.1	0.00	5.5	23.0	1:15p	S
23	75.3	80.9	12:15a	65.0	12:00m	0.0	10.3	0.06	4.9	27.0	2:45p	N
24	69.9	79.6	3:45p	59.3	6:15a	1.1	5.9	0.00	2.5	16.0	3:30p	WNW
25	66.7	75.6	1:00p	57.8	12:00m	1.0	2.7	0.00	2.9	15.0	10:30a	W
26	61.3	72.6	5:30p	54.4	5:15a	4.6	0.9	0.26	1.5	18.0	2:00p	SSE
27	69.9	82.2	7:15p	54.0	6:15a	2.9	7.8	0.00	3.2	21.0	5:15p	SSE
28	81.1	90.2	6:00p	73.5	6:30a	0.0	16.1	0.00	9.2	31.0	2:00p	S
29	75.1	82.4	7:00p	65.0	6:45a	0.0	10.1	1.72	4.7	35.0	6:45a	SE
30	73.5	81.5	2:15p	66.8	2:45a	0.0	8.5	0.79	3.3	17.0	2:30a	W
	76.3	93.7	15	54.0	27	13.0	351.7	5.64	4.0	48.0	15	S

Max >= 90.0: 10
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 2.24 ON 06/17/17
Days of Rain: 10 (>.01 in) 6 (>.1 in) 2 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for JUL. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	75.3	87.4	3:45p	62.8	5:45a	0.2	10.5	0.00	1.3	12.0	12:15p	WNW
2	79.1	89.2	3:00p	67.5	6:15a	0.0	14.1	0.00	1.7	12.0	8:45a	S
3	80.6	90.3	3:15p	71.8	5:30a	0.0	15.6	0.00	1.8	16.0	1:00p	SW
4	74.7	80.9	4:15p	68.9	9:45a	0.0	9.7	0.41	0.9	20.0	8:30a	SE
5	75.2	82.3	6:45p	70.2	5:45a	0.0	10.2	0.19	1.1	15.0	1:00p	N
6	80.1	91.3	4:15p	67.6	6:15a	0.0	15.1	0.00	2.1	13.0	3:00p	WSW
7	79.8	89.0	1:30p	71.4	12:00m	0.0	14.8	0.00	2.7	21.0	3:15p	NNW
8	78.3	90.0	4:30p	64.7	6:15a	0.0	13.3	0.00	1.6	13.0	5:00p	SW
9	81.7	91.0	4:45p	70.7	6:30a	0.0	16.7	0.00	3.8	23.0	4:00p	SW
10	85.4	94.6	6:15p	76.3	7:00a	0.0	20.4	0.00	6.5	25.0	1:00a	SW
11	85.7	95.6	5:00p	76.7	6:30a	0.0	20.7	0.00	6.5	23.0	6:45p	S
12	87.6	96.2	5:15p	80.3	7:30a	0.0	22.6	0.00	5.4	21.0	12:15p	S
13	79.6	86.6	3:00p	72.4	8:30a	0.0	14.6	0.11	3.0	17.0	7:15a	NE
14	79.4	88.2	5:00p	72.4	7:30a	0.0	14.4	0.00	0.9	8.0	6:30p	ESE
15	81.7	91.8	3:30p	71.7	5:30a	0.0	16.7	0.00	0.9	10.0	3:30p	ESE
16	83.0	94.1	5:30p	70.7	6:30a	0.0	18.0	0.00	1.3	10.0	1:15p	E
17	84.8	94.2	5:00p	72.6	6:45a	0.0	19.8	0.00	2.2	13.0	5:15p	S
18	84.8	92.6	3:45p	75.7	6:30a	0.0	19.8	0.00	3.1	18.0	1:00p	S
19	83.4	94.6	4:30p	74.4	9:45a	0.0	18.4	0.49	3.3	21.0	3:45a	S
20	88.6	98.8	4:30p	78.1	6:00a	0.0	23.6	0.00	4.6	19.0	11:00a	S
21	89.3	99.0	4:45p	80.2	6:30a	0.0	24.3	0.00	5.8	24.0	4:30p	S
22	88.7	100.3	4:15p	72.3	11:45p	0.0	23.7	0.05	5.2	22.0	12:30a	SW
23	82.3	93.6	5:00p	71.8	2:00a	0.0	17.3	0.00	1.8	13.0	12:15a	N
24	79.3	87.9	5:15p	71.1	6:30a	0.0	14.3	0.00	2.1	10.0	11:30a	ENE
25	84.8	96.3	5:45p	72.8	6:30a	0.0	19.8	0.00	2.3	14.0	2:45p	ESE
26	79.4	83.9	12:15a	73.5	10:15p	0.0	14.4	1.36	2.4	17.0	8:45p	S
27	78.6	85.7	4:45p	73.7	1:00a	0.0	13.6	1.31	1.8	14.0	3:30p	N
28	77.9	84.3	4:30p	71.7	6:45a	0.0	12.9	0.00	2.4	14.0	1:45p	NE
29	74.7	82.1	4:30p	68.1	6:15a	0.0	9.7	0.00	1.9	13.0	12:00p	ENE
30	72.7	81.1	5:30p	62.8	7:00a	0.2	7.9	0.00	1.3	9.0	3:00p	NE
31	71.1	77.0	12:45p	65.2	4:15a	0.0	6.1	0.02	0.4	6.0	12:15p	ENE
	80.9	100.3	22	62.8	1	0.4	493.0	3.94	2.6	25.0	10	S

Max >= 90.0: 17
Max <= 32.0: 0
Min <= 32.0: 0
Min <=   0.0: 0
Max Rain: 1.36 ON 07/26/17
Days of Rain: 8 (>.01 in) 6 (>.1 in) 2 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for AUG. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	74.2	84.6	2:00p	62.3	6:15a	0.3	9.5	0.00	0.8	8.0	3:00p	NNE
2	78.2	89.6	3:30p	67.0	4:15a	0.0	13.2	0.00	0.9	11.0	1:15p	W
3	74.7	80.2	1:15p	66.8	12:00m	0.0	9.7	0.00	2.8	20.0	11:30a	NNW
4	68.3	79.1	4:30p	55.8	6:30a	1.7	5.0	0.00	1.7	16.0	2:15a	N
5	63.2	65.6	4:30p	59.6	10:30a	1.8	0.0	1.40	1.9	24.0	10:45a	ENE
6	68.7	75.6	4:30p	63.7	12:15a	0.3	4.0	0.02	1.0	8.0	3:30p	N
7	71.3	78.7	6:15p	63.8	7:00a	0.1	6.4	0.00	1.5	12.0	2:15p	N
8	71.6	81.0	4:45p	61.2	6:45a	0.6	7.2	0.00	1.0	12.0	5:15p	SE
9	71.7	83.8	3:15p	60.0	6:30a	0.8	7.6	0.00	1.1	14.0	1:15p	S
10	76.9	86.9	4:15p	68.2	7:15a	0.0	11.9	0.00	0.9	12.0	2:45p	SE
11	73.7	82.5	5:15p	66.9	7:15a	0.0	8.7	0.03	2.1	13.0	1:45p	N
12	71.5	80.0	2:30p	62.7	7:00a	0.2	6.7	0.00	1.5	10.0	11:45a	ENE
13	71.7	80.5	4:45p	60.0	7:15a	0.7	7.4	0.00	1.7	14.0	2:30p	ESE
14	76.4	86.9	6:00p	67.9	4:00a	0.0	11.4	0.00	2.6	13.0	11:45a	S
15	79.5	88.9	5:00p	71.0	5:45a	0.0	14.5	0.00	1.6	13.0	4:00p	SE
16	78.1	86.2	2:15p	72.4	6:45a	0.0	13.1	0.35	2.8	21.0	6:30a	SW
17	75.1	86.1	5:45p	65.8	7:00a	0.0	10.1	0.00	2.6	18.0	2:15p	W
18	75.8	91.5	4:00p	65.1	6:45a	0.0	10.8	0.00	2.1	20.0	6:15p	SW
19	79.3	91.3	5:00p	66.7	6:45a	0.0	14.3	0.00	0.9	7.0	1:45p	ENE
20	79.6	87.2	3:15p	68.1	5:30a	0.0	14.6	0.41	3.4	25.0	5:00a	SE
21	75.7	81.6	10:45a	68.1	9:15p	0.0	10.7	2.54	3.3	36.0	9:15p	S
22	70.9	79.8	3:45p	63.8	11:30p	0.0	6.0	1.70	3.0	30.0	2:00a	NNW
23	68.4	78.6	5:45p	55.7	6:45a	2.2	5.5	0.00	0.8	10.0	2:45p	ENE
24	70.2	80.6	3:30p	59.6	6:00a	1.0	6.2	0.00	1.4	14.0	1:00p	SE
25	72.7	82.3	4:30p	62.3	6:15a	0.3	8.0	0.00	1.9	16.0	3:00p	SE
26	74.7	85.7	5:30p	62.7	7:15a	0.3	10.0	0.00	1.9	16.0	11:30a	S
27	71.0	77.3	6:30p	66.8	12:00m	0.0	6.0	0.18	0.9	13.0	2:15p	S
28	70.8	79.6	4:00p	63.3	4:30a	0.2	6.0	0.00	1.5	13.0	12:45p	N
29	68.3	77.3	4:30p	59.2	7:00a	1.1	4.4	0.00	1.0	11.0	4:00p	N
30	71.3	83.0	4:15p	60.3	7:00a	0.9	7.2	0.00	0.9	10.0	1:15p	E
31	71.0	80.1	4:00p	61.5	7:00a	0.5	6.6	0.00	1.4	12.0	2:30p	ENE
	73.0	91.5	18	55.7	23	13.0	262.7	6.63	1.7	36.0	21	SE

Max >= 90.0: 2
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 2.54 ON 08/21/17
Days of Rain: 8 (>.01 in) 6 (>.1 in) 3 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for SEP. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	70.3	80.2	4:00p	62.1	7:15a	0.3	5.6	0.00	0.9	8.0	6:30p	ENE
2	74.4	85.1	4:15p	64.1	7:30a	0.0	9.4	0.00	2.1	15.0	12:15p	SW
3	77.1	87.0	5:30p	66.8	7:45a	0.0	12.1	0.00	1.1	10.0	4:00p	W
4	76.3	84.0	12:15p	67.3	12:00m	0.0	11.3	0.00	2.9	18.0	11:45a	NNW
5	65.3	73.6	3:45p	55.8	12:00m	2.1	2.4	0.00	2.9	24.0	2:00p	NNW
6	61.1	72.5	4:00p	50.8	7:15a	5.8	1.8	0.00	1.9	16.0	1:45p	N
7	64.4	79.5	5:15p	49.0	7:30a	5.0	4.4	0.00	0.6	8.0	3:00p	SE
8	72.3	87.1	4:30p	59.0	5:30a	1.8	9.0	0.00	2.3	14.0	11:15a	SSW
9	73.4	85.0	4:00p	61.4	7:00a	0.4	8.8	0.00	1.5	14.0	2:00p	S
10	73.8	84.2	3:30p	63.4	7:15a	0.1	8.8	0.00	1.4	13.0	4:00p	SE
11	69.7	80.4	2:15p	58.6	7:15a	1.2	5.9	0.00	0.9	13.0	2:45p	ENE
12	68.4	80.5	4:00p	57.3	7:30a	2.0	5.4	0.00	1.2	12.0	12:45p	N
13	72.6	86.2	4:00p	58.8	7:30a	1.1	8.7	0.00	0.5	7.0	11:00a	N
14	75.6	87.9	3:30p	65.5	6:15a	0.0	10.6	0.00	2.6	17.0	2:15p	S
15	77.8	87.3	4:00p	67.8	6:45a	0.0	12.8	0.00	4.3	25.0	11:00a	SSE
16	76.7	86.3	2:45p	70.8	4:00p	0.0	11.7	0.41	4.0	29.0	4:00p	S
17	66.3	74.6	4:45p	60.5	7:45a	1.3	2.5	0.74	1.6	18.0	2:00a	N
18	69.0	76.1	6:15p	65.1	6:15a	0.0	4.0	0.15	0.8	11.0	11:15a	E
19	77.0	88.3	5:15p	67.0	12:15a	0.0	12.0	0.15	3.5	22.0	6:00p	SE
20	81.1	88.5	5:45p	74.5	7:15a	0.0	16.1	0.00	4.1	26.0	12:15a	S
21	83.7	91.7	3:45p	76.4	7:30a	0.0	18.7	0.00	4.9	28.0	4:00p	SSE
22	82.4	90.5	4:00p	75.3	7:15a	0.0	17.4	0.00	5.0	21.0	3:15p	S
23	80.5	90.1	3:45p	71.0	7:15a	0.0	15.5	0.00	2.2	19.0	2:45p	S
24	79.5	89.4	4:00p	71.1	7:30a	0.0	14.5	0.00	2.1	16.0	1:30p	S
25	75.9	87.8	2:45p	65.6	12:00m	0.0	10.9	0.18	2.8	18.0	9:15p	SSE
26	63.8	66.6	8:45a	60.8	8:30p	1.5	0.3	0.27	1.2	14.0	9:00a	NNW
27	61.6	68.4	4:15p	55.3	12:00m	3.9	0.5	0.00	1.2	8.0	4:30a	N
28	63.8	77.8	5:30p	50.5	7:45a	4.8	3.5	0.00	0.5	9.0	1:30p	SW
29	65.8	81.0	4:15p	53.1	7:45a	3.8	4.6	0.00	0.4	9.0	10:45p	E
30	67.7	79.7	4:00p	58.6	1:30a	1.8	4.4	0.00	1.6	15.0	5:15p	SE
	72.2	91.7	21	49.0	7	36.9	253.6	1.90	2.1	29.0	16	S

Max >= 90.0: 3
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 0.74 ON 09/17/17
Days of Rain: 6 (>.01 in) 6 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for OCT. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	68.2	76.6	5:15p	62.1	8:00a	0.7	3.9	0.02	2.7	19.0	12:45p	SE
2	75.8	85.0	4:30p	66.2	5:30a	0.0	10.8	0.00	5.1	24.0	3:00p	SSE
3	74.8	84.2	5:45p	65.2	12:00m	0.0	9.8	0.00	5.9	26.0	2:45a	S
4	61.9	65.3	12:15a	59.6	11:30p	3.1	0.0	0.14	2.0	12.0	11:00a	N
5	68.2	75.6	4:30p	59.6	12:15a	1.2	4.4	0.00	1.3	11.0	1:15p	S
6	72.3	76.9	3:45p	67.3	5:45a	0.0	7.3	0.16	4.5	26.0	12:45p	S
7	66.0	75.5	5:30p	58.7	12:00m	1.8	2.8	0.42	4.6	29.0	6:15a	W
8	65.8	80.8	3:30p	53.9	6:45a	4.0	4.8	0.00	1.1	14.0	11:45a	S
9	61.8	74.3	2:45p	52.6	5:15a	5.1	1.9	0.00	2.8	26.0	11:30p	N
10	46.9	54.0	12:15a	44.1	7:00p	18.1	0.0	0.24	3.7	22.0	6:15a	N
11	51.8	64.2	5:00p	44.7	5:15a	13.2	0.0	0.00	0.6	6.0	12:30a	W
12	56.9	70.3	5:45p	48.0	1:45a	8.7	0.6	0.00	1.8	14.0	3:45p	SE
13	68.5	84.6	4:45p	57.0	7:30a	2.1	5.6	0.00	1.4	13.0	2:15p	SE
14	66.4	77.3	12:45p	56.0	12:00m	1.5	2.9	0.32	1.8	24.0	7:30p	NNW
15	52.3	61.3	3:30p	44.4	11:45p	12.7	0.0	0.00	3.0	31.0	3:00a	NNW
16	55.2	70.3	5:00p	41.8	8:00a	10.6	0.9	0.00	1.5	16.0	4:30p	S
17	60.1	73.2	4:45p	47.5	7:45a	6.7	1.7	0.00	3.3	23.0	12:00p	S
18	62.3	74.9	4:45p	52.1	7:45a	5.0	2.3	0.00	3.7	25.0	12:15p	S
19	65.1	81.7	4:45p	51.4	7:30a	4.3	4.3	0.00	1.7	14.0	4:30p	S
20	66.3	75.7	3:00p	57.9	5:00a	2.2	3.5	0.00	5.1	27.0	12:15p	SSE
21	66.4	75.6	4:15p	52.4	12:00m	1.9	3.3	2.22	7.7	34.0	12:15p	S
22	55.4	68.6	6:15p	48.1	8:30a	10.0	0.4	0.20	1.4	12.0	2:45a	NNW
23	55.5	67.1	2:30p	45.4	7:30a	9.6	0.1	0.00	3.9	33.0	2:30p	NNW
24	50.5	56.4	5:00p	44.6	12:00m	14.5	0.0	0.00	7.1	35.0	2:15p	NNW
25	55.1	71.8	5:15p	42.2	6:30a	11.0	1.1	0.00	2.3	18.0	7:45a	W
26	56.4	69.3	2:00p	43.9	12:00m	9.2	0.6	0.00	5.0	36.0	10:45p	NNW
27	38.9	43.9	12:15a	36.5	8:00a	26.1	0.0	0.00	6.9	31.0	3:15a	NNW
28	36.6	49.8	4:30p	27.9	7:45a	28.4	0.0	0.00	2.8	16.0	9:45a	WNW
29	46.6	62.9	4:30p	29.8	12:15a	18.4	0.0	0.00	2.2	21.0	10:00p	SSW
30	46.9	52.4	12:15a	38.4	12:00m	18.1	0.0	0.00	5.8	27.0	6:00a	NNW
31	33.2	38.5	12:15a	29.1	8:00a	31.8	0.0	0.00	1.8	15.0	1:15a	NW
	58.3	85.0	2	27.9	28	280.0	73.0	3.72	3.4	36.0	26	S

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 3
Min <= 0.0: 0
Max Rain: 2.22 ON 10/21/17
Days of Rain: 8 (>.01 in) 7 (>.1 in) 1 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for NOV. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	43.1	51.0	7:30p	34.0	4:15a	21.9	0.0	0.00	2.8	21.0	11:45a	SE
2	50.3	53.2	6:30p	44.7	12:00m	14.7	0.0	0.00	2.2	17.0	1:30p	N
3	45.0	53.1	8:45p	34.4	8:30a	20.0	0.0	0.00	3.8	15.0	2:15a	ENE
4	48.4	51.0	6:30p	44.4	10:15a	16.6	0.0	0.00	0.9	8.0	6:30a	W
5	48.1	51.7	12:30p	37.8	12:00m	16.9	0.0	0.00	1.9	18.0	1:45p	N
6	37.8	44.8	3:15p	30.8	6:45a	27.2	0.0	0.00	2.7	15.0	12:30p	NE
7	39.2	44.8	1:30p	33.7	8:15a	25.8	0.0	0.00	3.0	21.0	1:30p	N
8	39.0	51.8	4:00p	28.5	6:45a	26.0	0.0	0.00	0.2	5.0	2:30p	N
9	37.6	46.6	1:15p	27.4	12:00m	27.4	0.0	0.00	2.7	18.0	1:30p	N
10	30.8	37.9	5:00p	23.3	6:00a	34.2	0.0	0.00	3.8	14.0	10:45a	E
11	42.5	48.7	1:15p	35.2	1:15a	22.5	0.0	0.08	2.2	17.0	12:45p	SE
12	43.1	46.2	2:15p	33.6	12:00m	21.9	0.0	0.00	1.0	13.0	5:00a	NNW
13	44.3	49.2	4:30p	33.5	12:15a	20.7	0.0	0.00	0.7	10.0	10:30a	S
14	53.4	56.2	8:30p	48.6	12:45a	11.6	0.0	0.00	1.8	14.0	11:30a	SSE
15	51.5	57.9	2:15p	39.2	12:00m	13.5	0.0	0.03	2.4	23.0	6:00a	NNW
16	41.5	52.5	3:30p	31.2	7:15a	23.5	0.0	0.00	1.2	11.0	4:00p	SE
17	59.0	69.6	3:45p	46.6	12:15a	6.6	0.5	0.00	2.5	23.0	5:30a	SSE
18	46.7	56.3	3:00a	36.4	12:00m	18.3	0.0	0.03	6.6	35.0	6:30a	NNW
19	41.2	54.2	4:00p	28.9	7:45a	23.8	0.0	0.00	2.7	17.0	3:30p	S
20	51.7	62.2	2:30p	42.0	7:00a	13.3	0.0	0.00	8.9	37.0	1:00p	SW
21	42.1	52.6	12:15a	26.3	12:00m	22.9	0.0	0.00	5.6	36.0	2:15p	NNW
22	31.5	41.4	4:15p	19.5	6:45a	33.5	0.0	0.00	2.6	14.0	3:15p	S
23	48.7	66.5	3:00p	34.6	6:15a	16.3	0.0	0.00	1.8	15.0	10:45p	S
24	59.8	74.6	3:45p	50.5	6:45a	6.8	1.6	0.00	6.8	29.0	9:15a	SW
25	49.5	61.3	2:45p	39.5	12:00m	15.5	0.0	0.00	1.9	18.0	12:30a	NNW
26	49.6	66.3	3:30p	34.8	5:30a	15.5	0.1	0.00	2.4	22.0	1:45p	S
27	56.4	69.0	2:45p	44.0	7:15a	9.0	0.4	0.00	6.8	28.0	7:15p	S
28	56.0	60.9	12:15a	47.4	12:00m	9.0	0.0	0.00	7.3	33.0	2:00a	N
29	47.7	52.1	4:00p	44.2	7:00a	17.3	0.0	0.00	2.9	13.0	9:00a	ENE
30	45.7	56.6	2:15p	34.8	12:00m	19.3	0.0	0.00	2.3	19.0	12:45p	NNW
	46.0	74.6	24	19.5	22	571.5	2.6	0.14	3.1	37.0	20	S

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 8
Min <= 0.0: 0
Max Rain: 0.08 ON 11/11/17
Days of Rain: 3 (>.01 in) 0 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for DEC. 2017

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas
ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	43.5	58.7	3:00p	29.3	6:00a	21.5	0.0	0.00	1.4	21.0	11:15a	SSE
2	45.6	62.0	4:15p	34.1	7:30a	19.4	0.0	0.00	0.2	9.0	10:30a	SE
3	52.8	68.4	3:30p	36.0	6:30a	12.5	0.4	0.00	3.6	28.0	8:45p	S
4	57.6	70.9	1:30p	32.7	12:00m	8.0	0.6	0.00	13.5	44.0	5:45p	S
5	37.0	47.2	3:00p	27.6	7:30a	28.0	0.0	0.00	7.3	32.0	11:30a	W
6	37.5	45.4	12:15p	24.2	12:00m	27.5	0.0	0.00	7.3	31.0	7:45p	WNW
7	22.8	29.4	3:15p	16.6	7:30a	42.2	0.0	0.00	4.4	21.0	10:45a	NNW
8	29.7	41.8	3:30p	18.7	3:00a	35.3	0.0	0.00	4.4	19.0	7:00p	SW
9	33.1	39.5	3:45p	27.9	9:15p	31.9	0.0	0.00	4.9	23.0	10:15a	NNW
10	42.7	57.5	3:45p	29.6	1:45a	22.3	0.0	0.00	3.0	21.0	11:00a	NW
11	43.6	55.6	12:00p	31.8	2:15a	21.4	0.0	0.00	8.0	38.0	2:00p	NNW
12	31.7	41.3	4:30p	20.8	8:00a	33.3	0.0	0.00	4.1	21.0	1:30a	NNW
13	46.1	58.4	1:15p	35.3	1:30a	18.9	0.0	0.00	7.1	39.0	11:30a	NNW
14	38.5	41.9	4:30p	36.3	7:45a	26.5	0.0	0.00	0.8	10.0	12:30p	NNW
15	39.6	46.8	3:15p	32.0	8:00a	25.4	0.0	0.00	3.1	21.0	2:15p	WNW
16	45.8	59.7	3:15p	35.5	7:45a	19.2	0.0	0.00	2.9	18.0	10:00a	S
17	45.5	48.2	3:30p	42.5	8:00a	19.5	0.0	0.09	1.6	16.0	5:00a	SW
18	45.1	54.5	3:15p	36.0	9:00a	19.9	0.0	0.00	2.5	22.0	3:00p	SW
19	42.7	46.8	3:45p	38.9	6:30a	22.3	0.0	0.00	1.2	10.0	3:00a	NNE
20	37.1	42.6	11:45p	31.1	8:30a	27.9	0.0	0.00	1.2	10.0	11:30p	SE
21	42.5	49.4	2:30p	32.0	12:00m	22.5	0.0	0.00	2.1	16.0	7:00p	NNW
22	28.3	32.0	12:15a	26.6	6:00a	36.7	0.0	0.00	3.2	16.0	12:30a	NNW
23	24.0	27.5	3:15p	19.3	7:30a	41.0	0.0	0.00	1.9	12.0	8:30p	NNW
24	22.0	25.8	2:45p	19.7	8:15a	43.0	0.0	0.03	3.6	21.0	2:00p	W
25	20.3	24.8	2:15p	13.7	12:00m	44.7	0.0	0.00	3.4	17.0	11:15p	NNE
26	9.0	13.9	12:15a	4.6	12:00m	56.0	0.0	0.00	4.7	16.0	2:15a	N
27	7.0	12.8	3:15p	-1.0	7:30a	58.0	0.0	0.00	2.7	14.0	6:30p	E
28	20.5	27.4	5:45p	12.8	12:15a	44.5	0.0	0.00	2.2	11.0	3:15a	ESE
29	23.6	31.1	5:00p	16.0	5:15a	41.4	0.0	0.00	1.7	23.0	11:45p	SE
30	9.0	18.5	12:15a	5.1	12:00m	56.0	0.0	0.00	5.1	21.0	2:30a	N
31	2.5	7.4	3:00p	-4.4	12:00m	62.5	0.0	0.00	5.0	19.0	12:15p	N
	33.1	70.9	4	-4.4	31	989.2	1.0	0.12	3.8	44.0	4	NNW

Max >= 90.0: 0
Max <= 32.0: 11
Min <= 32.0: 22
Min <= 0.0: 2
Max Rain: 0.09 ON 12/17/17
Days of Rain: 2 (>.01 in) 0 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

City of Leavenworth

2017 Stormwater Sampling Time Summary

	(West)	(East)	(West)	(East)	(West)	(East)	(West)	(East)	(West)	(East)
	March 29 2017		April 5 2017		July 27 2017		August 5 2017		October 22 2017	
Three Mile Creek Time	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
	857	837	919	857	845	818	1616	1553	1102	1037

	(West)	(East)	(West)	(East)	(West)	(East)	(West)	(East)	(West)	(East)
	March 29 2017		April 5 2017		July 27 2017		August 5 2017			
Five Mile Creek Time	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
	915	938	936	955	911	934	1640	1704	1126	1149

City of Leavenworth – Sampling time, steam conditions

3/29/17

	stream level	stream velocity	stream flow	distance to water surface	TSS	Sample Time	TSS
3 mile east	up	rapid	13.91 sec/50ft	24'8"	960mg/L	837	210mg/L @ 1408
3 mile west	up	rapid	7.38 sec/50ft	18'11"	420mg/L	857	240mg/L @ 1422
5 mile west	up	rapid	16.97 sec/50ft	21'9"	630mg/L	915	300mg/L @ 1432
5 mile east	up	rapid	12.33 sec/50ft	16'1.5"	2610mg/L	938	300mg/L @ 1445

4/5/17

	stream level	stream velocity	stream flow	distance to water surface	TSS	Sample Time	TSS
3 mile east	up	rapid	10.82 sec/50ft	23'11"	1.87 g/L	857	0.15 g/L @ 1438
3 mile west	up	rapid	10.25 sec/50ft	18'10"	0.29 g/L	919	0.14 g/L @ 1452
5 mile west	up	rapid	13.31 sec/50ft	21'0.5"	0.41 g/L	936	0.23 g/L @ 1502
5 mile east	up	rapid	6.43 sec/50ft	14'3"	0.52 g /L	955	0.27 g/L @ 1515

7/27/17

	stream level	stream velocity	stream flow	distance to water surface	TSS	Sample Time	TSS Time
3 mile east	up	rapid	23.97 sec/50ft	25'7"	0.38 g/L	818	0.11g/L @ 1456
3 mile west	up	normal	24.1 sec/50ft	19'9"	0.17 g/L	845	0.05g/L @ 1511
5 mile west	normal	slow	1:04.75 sec/50ft	22'6"	0.26 g/L	911	0.13g/L @ 1522
5 mile east	up	rapid	20.48 sec/50ft	17'2.5"	0.52 g /L	934	0.12g/L @1536

8/5/17

	stream level	stream velocity	stream flow	distance to water surface	TSS	Sample Time
3 mile east	up	rapid	36.47 sec/50ft	25'4.5"	0.11 g/L	1553
3 mile west	up	normal	48.23 sec/50ft	19'7"	0.18 g/L	1616
5 mile west	up	slow	1:12.31 sec/50ft	22'5"	0.19 g/L	1640
5 mile east	up	rapid	15.62 sec/50ft	17'	0.12 g /L	1704

10/22/17

	stream level	stream velocity	stream flow	distance to water surface	TSS	Sample Time
3 mile east	up	rapid	20.59 sec/50ft	25'4"	0.17 g/L	1037
3 mile west	up	steady, rapid	17.47 sec/50ft	19'1.5"	0.11 g/L	1102
5 mile west	up	steady	24.57 sec/50ft	22'2"	0.17 g/L	1126
5 mile east	up	rapid	23.78 sec/50ft	15'9.5"	0.28 g /L	1149

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Three-Mile Creek East Looking East (Downstream)

March 29, 2017

August 5, 2017

April 5, 2017

October 22, 2017

July 27, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Three-Mile Creek East Looking West (Upstream)

March 29, 2017

April 5, 2017

July 27, 2017

August 5, 2017

October 22, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Three-Mile Creek West Looking East (Downstream)

March 29, 2017

August 5, 2017

April 5, 2017

October 22, 2017

July 27, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Three-Mile Creek West Looking West (Upstream)

March 29, 2017

August 5, 2017

April 5, 2017

October 22, 2017

July 27, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Five-Mile Creek East Looking East (Downstream)

March 29, 2017

April 5, 2017

July 27, 2017

August 5, 2017

October 22, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Five-Mile Creek East Looking West (Upstream)

March 29, 2017

March 29, 2017

April 5, 2017

July 27, 2017

August 5, 2017

October 22, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Five-Mile Creek West Looking West (Upstream)

March 29, 2017

April 5, 2017

July 27, 2017

August 5, 2017

October 22, 2017

2017 Storm Events: Three- and Five-Mile Creeks, Leavenworth, KS

Five-Mile Creek West Looking East (Downstream)

March 29, 2017

April 5, 2017

July 27, 2017

August 5, 2017

October 22, 2017

City of Leavenworth

2017 Stormwater Sampling Summary

= decrease in Water Quality
= increase or No Change in Water Quality

		Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)
		March 29 2017		**April 5 2017**		**July 27 2017**		**August 5 2017**		**October 22 2017**	
	KDHE ID	003B6	003A6	003B6	003A6	003B6	003A6	003B6	003A6	003B6	003A6
	Time	8:57 AM	8:37 AM	9:19 AM	8:57 AM	8:45 AM	8:18 AM	4:16 PM	3:53 PM	11:02 AM	10:37 AM
Three Mile Creek	CFS	51	24	52	98	5	<1	<1	0	12	24
Total Phosphorus	mg/l	0.26	0.86	0.21	0.43	0.29	0.41	0.23	0.21	ND	0.27
Ortho Phosphate	mg/l	0.1	0.21	0.2	0.33	0.17	0.27	0.16	0.14	ND	0.3
Nitrate+Nitrite	mg/l	0.62	0.9	0.99	0.67	0.5	1.2	0.53	0.55	0.3	1
Total Kjeldahl Nitrogen	mg/l	0.76	2.5	0.84	1.4	1.2	2.2	0.56	ND	1	1.2
Total Suspended Solids	mg/l	185	488	116	132	56	159	62	33	41.3	47
Turbidity	NTU	155	434	107	134	50.9	67.2	58.6	30.5	38.3	56.6
E.Coli	col/100ml	4106	4352	1460	6130	8164	6867	4730	9870	2410	5810
potable TSS meter	*at time of sampling*	*420*	*960*	*290*	*1870*	*170*	*380*	*180*	*110*	*110*	*170*
	later few hours	*240*	*210*	*140*	*150*	*50*	*110*				

		Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)	Upstream (West)	Downstream (East)
		March 29 2017		**April 5 2017**		**July 27 2017**		**August 5 2017**		**October 22 2017**	
	KDHE ID	005B6	005A6	005B6	005A6	005B6	005A6	005B6	005A6	005B6	005A6
	Time	9:15 AM	9:38 AM	9:36 AM	9:55 AM	9:11 AM	9:34 AM	4:40 PM	5:04 PM	11:26 AM	11:49 AM
Five Mile Creek	CFS	129	112	274	360	17	33	3	36	12	32
Total Phosphorus	mg/l	0.36	0.66	0.18	0.29	0.23	0.28	0.13	0.16	0.15	0.2
Ortho Phosphate	mg/l	0.19	0.14	0.24	0.3	0.1	0.15	ND	ND	0.17	0.22
Nitrate+Nitrite	mg/l	1	1	0.25	0.35	0.44	0.57	0.37	0.19	0.42	0.66
Total Kjeldahl Nitrogen	mg/l	1.9	2.6	0.98	0.89	1.1	1.1	ND	4.5	0.96	1.2
Total Suspended Solids	mg/l	270	994	162	336	92	81	68	35.5	30	83.2
Turbidity	NTU	252	855	296	222	63.2	77.3	47	33	4.4	7.5
E.Coli	col/100ml	31800	55600	6630	8200	4352	5475	6090	24810	8360	7980
potable TSS meter	*at time of sampling*	*630*	*2610*	*410*	*520*	*260*	*250*	*190*	*120*	*170*	*280*
	later few hours	*300*	*300*	*230*	*270*	*130*	*120*				

City of Leavenworth

2017 Stormwater Sampling Summary (2014-2017)

(Note - in calculating CFS - the rating curve was used rather than the observed velocities)

2017		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)	
		March 29 2017			April 5 2017			July 27 2017			August 5 2017			October 22 2017		
	KDHE ID	003B6	003A6		003B6	003A6		003B6	003A6		003B6	003A6		003B6	003A6	
	Time	8:57 AM	8:37 AM		9:19 AM	8:57 AM		8:45 AM	8:18 AM		4:16 PM	3:53 PM		11:02 AM	10:37 AM	
Three Mile Creek	CFS	51	24		52	98		5	<1		<1	0	b	12	24	w
Total Phosphorus	mg/l	0.26	0.86	w	0.21	0.43	w	0.29	0.41	w	0.23	0.21	b	ND	0.27	w
Ortho Phosphate	mg/l	0.1	0.21	w	0.2	0.33	w	0.17	0.27	w	0.16	0.14	b	ND	0.3	w
Nitrate+Nitrite	mg/l	0.62	0.9	w	0.99	0.67	b	0.5	1.2	w	0.53	0.55	w	0.3	1	w
Total Kjeldahl Nitrogen	mg/l	0.76	2.5	w	0.84	1.4	w	1.2	2.2	w	0.56	ND	b	1	1.2	w
Total Suspended Solids	mg/l	185	488	w	116	132	w	56	159	w	62	33	b	41.3	47	w
Turbidity	NTU	155	434	w	107	134	w	50.9	67.2	w	58.6	30.5	b	38.3	56.6	w
E.Coli	col/100ml	4106	4352	w	1460	6130	w	8164	6867	b	4730	9870	w	2410	5810	w

Three Mile Creek - 5 event 2017	NC/Better	Worse
Total Phosphorus	1	4
Ortho Phosphate	1	4
Nitrate+Nitrite	1	4
Total Kjeldahl Nitrogen	1	4
Total Suspended Solids	1	4
Turbidity	1	4
E.Coli	1	4
	7	28

2017		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)		Upstream (West)	Downstream (East)	
		March 29 2017			April 5 2017			July 27 2017			August 5 2017			October 22 2017		
	KDHE ID	005B6	005A6		005B6	005A6		005B6	005A6		005B6	005A6		005B6	005A6	
	Time	9:15 AM	9:38 AM		9:36 AM	9:55 AM		9:11 AM	9:34 AM		4:40 PM	5:04 PM		11:26 AM	11:49 AM	
Five Mile Creek		129	112		274	360		17	33		3	36	w	12	32	
Total Phosphorus	mg/l	0.36	0.66	w	0.18	0.29	w	0.23	0.28	w	0.13	0.16	w	0.15	0.2	w
Ortho Phosphate	mg/l	0.19	0.14	b	0.24	0.3	w	0.1	0.15	w	ND	ND	n	0.17	0.22	w
Nitrate+Nitrite	mg/l	1	1	n	0.25	0.35	w	0.44	0.57	w	0.37	0.19	b	0.42	0.66	w
Total Kjeldahl Nitrogen	mg/l	1.9	2.6	w	0.98	0.89	b	1.1	1.1	n	ND	4.5	w	0.96	1.2	w
Total Suspended Solids	mg/l	270	994	w	162	336	w	92	81	b	68	35.5	b	30	83.2	w
Turbidity	NTU	252	855	w	296	222	b	63.2	77.3	w	47	33	b	4.4	7.5	w
E.Coli	col/100ml	31800	55600	w	6630	8200	w	4352	5475	w	6090	24810	w	8360	7980	b

Five-Mile Creek - 5 event 2017	NC/Better	Worse
Total Phosphorus	0	5
Ortho Phosphate	1	4
Nitrate+Nitrite	1	4
Total Kjeldahl Nitrogen	2	3
Total Suspended Solids	2	3
Turbidity	2	3
E.Coli	1	4
	9	26

2016		April 25, 2016 West Upstream	April 25, 2016 East Downstream		April 26 2016 West Upstream	April 26 2016 East Downstream		May 11, 2016 West Upstream	May 11, 2016 East Downstream		July 31 2016 West Upstream	July 31 2016 East Downstream		August 25 2016 West Upstream	August 25 2016 East Downstream		September 14 2016 West Upstream	September 14 2016 East Downstream	
Three Mile Creek	CFS																		
Total Phosphorus	mg/l	<0.1	0.26	w	1.10	1.80	w	0.32	0.73	w	0.55	0.90	w	0.66	0.67	w	0.38	0.55	w
Ortho Phosphate	mg/l	<0.1	0.12	w	0.11	<0.1	b	<0.1	0.15	w	0.13	0.18	w	0.30	0.28	b	0.19	0.30	w
Nitrate+Nitrite	mg/l	0.50	0.60	w	0.84	0.40	b	0.18	0.39	w	0.92	0.77	b	0.85	0.37	b	0.17	0.55	w
Total Kjeldahl Nitrogen	mg/l	1.3	1.6	w	3.4	10.8	w	1.2	2.5	w	2.0	3.2	w	1.8	2.4	w	1.3	1.6	w
Total Suspended Solids	mg/l	17	85	w	1,040	1,750	w	196	498	w	362	500	w	648	1,140	w	349	442	w
Turbidity	NTU	21	103	w	876	849	b	176	429	w	328	284	b	570	765	w	303	344	w
E.Coli	col/100ml	1,723	6,131	w	10,462	27,500	w	8,840	28,510	w	43,500	99,700	w	24,600	28,800	w	4,500	36,540	w

Three Mile Creek - 6 event 2016	NC/Better	Worse
Total Phosphorus	0	6
Ortho Phosphate	2	4
Nitrate+Nitrite	3	3
Total Kjeldahl Nitrogen	0	6
Total Suspended Solids	0	6
Turbidity	2	4
E.Coli	0	6
	7	35

2016		April 25, 2016 West Upstream	April 25, 2016 East Downstream		April 26 2016 West Upstream	April 26 2016 East Downstream		May 11, 2016 West Upstream	May 11, 2016 East Downstream		July 31 2016 West Upstream	July 31 2016 East Downstream		August 25 2016 West Upstream	August 25 2016 East Downstream		September 14 2016 West Upstream	September 14 2016 East Downstream	
Three Mile Creek	CFS																		
Total Phosphorus	mg/l	0.14	0.14	b	1.60	1.80	w	0.56	1.60	w	0.14	0.37	w	1.50	0.43	b	0.38	0.56	w
Ortho Phosphate	mg/l	<0.1	<0.1	b	<0.1	<0.1	b	<0.1	0.14	w	<0.1	0.10	w	0.61	0.22	b	0.18	0.20	w
Nitrate+Nitrite	mg/l	0.17	0.30	w	2.70	0.72	b	1.10	0.80	b	0.26	0.49	w	0.54	0.42	b	0.13	0.30	w
Total Kjeldahl Nitrogen	mg/l	1.0	1.2	w	7.0	7.9	w	2.0	5.0	w	1.2	2.4	w	6.9	1.4	b	1.6	2.2	w
Total Suspended Solids	mg/l	60	53	b	2,120	2,840	w	449	1,710	w	194	314	w	2,730	388	b	604	620	w
Turbidity	NTU	146	61	b	1,650	1,890	w	338	1,130	w	157	240	w	1,960	385	b	467	504	b
E.Coli	col/100ml	4,884	5,475	w	28,500	24,196	b	48,840	198,630	w	32,300	36,400	w	44,100	16,100	b	19,890	15,650	b

Five-Mile Creek - 6 event 2016	NC/Better	Worse
Total Phosphorus	2	4
Ortho Phosphate	3	3
Nitrate+Nitrite	3	3
Total Kjeldahl Nitrogen	1	5
Total Suspended Solids	2	4
Turbidity	3	3
E.Coli	3	3

City of Leavenworth

2017 Stormwater Sampling Summary (2014-2017)

(Note - in calculating CFS - the rating curve was used rather than the observed velocities)

Page 2 of 2

2015		May 5 2015			May 14 2015			June 3 2015			July 20 2015			October 31 2015			November 5 2015		
		West	East		West	East		West	East		West	East		West	East		West	East	
		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream	
Three Mile Creek	CFS	300	190		40	45		1300	7700		45	n/a (1)		30	0		500	140	
Total Phosphorus	mg/l	0.14	0.24	w	0.15	0.23	w	1.1	2.4	w	0.34	0.18	b	0.19	0.42	w	2.4	0.76	w
Ortho Phosphate	mg/l	ND	ND	x	ND	ND	x	0.11	0.15	w	0.12	0.11	b	0.18	0.24	w	0.13	0.18	w
Nitrate+Nitrite	mg/l	0.33	0.94	w	0.27	0.37	w	0.27	0.33	w	0.39	0.61	w	0.4	0.38	b	0.47	0.31	b
Total Kjeldahl Nitrogen	mg/l	0.88	1.5	w	0.81	0.88	w	3	6.3	w	1.3	0.7	b	0.77	0.7	b	31.1	ND	b
Total Suspended Solids	mg/l	90	98	w	60	81	w	1380	1570	b	322	157	b	18	41	w	2870	402	b
Turbidity	NTU	87.3	117	w	47.4	57	w	804	1380	w	273	100	b	8.6	10.2	w	1320	69.8	b
E.Coli	col/100ml	2247	3873	w	866	9090	w	12997	98700	w	20980	13540	w	3448	5172	w	34500	42800	w

Three Mile Creek - 6 event 2015	NC/Better	Worse
	17	25
Total Phosphorus	1	5
Ortho Phosphate	3	3
Nitrate+Nitrite	2	4
Total Kjeldahl Nitrogen	3	3
Total Suspended Solids	3	3
Turbidity	2	4
E.Coli	0	6
	14	28

2015		May 5 2015			May 14 2015			June 3 2015			July 20 2015			October 31 2015			November 5 2015		
		West	East		West	East		West	East		West	East		West	East		West	East	
		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream	
Five Mile Creek	CFS	30	150		35	150		330	1900		30	n/a (1)		20	135		35	600	
Total Phosphorus	mg/l	0.18	0.34	w	0.29	0.13	b	2.4	1.6	b	0.47	0.19	b	0.14	0.13	b	0.19	0.68	w
Ortho Phosphate	mg/l	ND	ND	x	ND	ND	x	0.11	0.14	w	0.15	ND	b	0.14	0.14	x	0.12	0.15	w
Nitrate+Nitrite	mg/l	0.22	0.46	w	0.12	0.23	w	0.21	0.28	w	0.42	0.47	w	ND	0.19	w	0.13	0.24	w
Total Kjeldahl Nitrogen	mg/l	1.3	2.1	w	1.3	0.84	b	7.3	4.8	b	1.8	0.89	b	0.54	ND	b	0.5	12.2	w
Total Suspended Solids	mg/l	113	165	w	136	65	b	1540	2110	w	480	201	b	11	25	w	49	392	w
Turbidity	NTU	146	231	w	100	28.5	b	1660	1220	b	404	134	b	5.3	13.1	w	27.2	138	w
E.Coli	col/100ml	12997	17329	w	17800	7540	b	90800	52100	b	77010	61310	b	1421	2613	w	19863	2851	b

(1) Missouri River Backed up

Five-Mile Creek - 6 event 2015	NC/Better	Worse
Total Phosphorus	2	4
Ortho Phosphate	5	1
Nitrate+Nitrite	0	6
Total Kjeldahl Nitrogen	4	2
Total Suspended Solids	2	4
Turbidity	3	3
E.Coli	5	1
	21	21

2014		April 24 2014			May 12 2014			October 1 2014			October 2 2014		
		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream	
Three Mile Creek	CFS	200	190		200	190		200	190		45	750	
Total Phosphorus	mg/l	0.32	0.55	w	0.42	0.61	w	1.5	0.79	b	0.6	0.67	w
Ortho Phosphate	mg/l							0.19	0.2	w	0.16	0.19	w
Nitrate+Nitrite	mg/l	0.5	0.42	b	0.69	0.69	x	0.56	0.57	w	0.3	0.73	w
Total Kjeldahl Nitrogen	mg/l	1	1.1	w	0.7	2.4	b	2.8	2.6	b	2.1	2.5	w
Total Suspended Solids	mg/l	303	242	b	165	440	w	1370	508	b	480	465	b
Turbidity	NTU	294	112	b	276	274	b	530	260	b	313	239	b
E.Coli	col/100ml	12997	3448	b	10500	14100	w	19863	72700	w	9208	37900	w
Dissolved Oxygen	mg/l	6.3	3.3		6.1	4.6							

Three Mile Creek - 4 event 2014	NC/Better	Worse
Total Phosphorus	1	3
Ortho Phosphate	0	2
Nitrate+Nitrite	2	2
Total Kjeldahl Nitrogen	2	2
Total Suspended Solids	3	1
Turbidity	4	0
E.Coli		
	12	10

2014		April 24 2014			May 12 2014			October 1 2014			October 2 2014		
		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream		Upstream	Downstream	
Five Mile Creek	CFS	1020	800		880	660		1100	800		3100	265	
Total Phosphorus	mg/l	0.13	0.54	w	0.34	0.28	b	0.66	0.63	b	1.5	1.1	b
Ortho Phosphate	mg/l							0.2	0.18	b	0.24	0.22	b
Nitrate+Nitrite	mg/l	0.21	0.34	w	0.29	0.32	w	0.3	0.5	w	0.32	0.41	w
Total Kjeldahl Nitrogen	mg/l	0.69	0.56	b	1.8	1.6	b	1.3	1.3	x	4.4	3	b
Total Suspended Solids	mg/l	54	485	w	300	226	b	356	472	w	1510	1480	b
Turbidity	NTU	22.5	261	w	199	193	b	241	263	w	488	438	b
E.Coli	col/100ml	1872	3255	w	8660	8660	x	88600	30900	b	63100	59100	b
Dissolved Oxygen	mg/l	6.7	4.9		5.5	5.1							

Five-Mile Creek - 4 event 2014	NC/Better	Worse
Total Phosphorus	3	1
Ortho Phosphate	2	0
Nitrate+Nitrite	0	4
Total Kjeldahl Nitrogen	4	0
Total Suspended Solids	2	2
Turbidity	2	2
E.Coli		
	13	9

Mike McDonald

From: Chuck Staples
Sent: Friday, February 16, 2018 1:14 PM
To: Mike McDonald
Cc: Colette Kiszka
Subject: FW: eDMR: LEAVENWORTH STORMWATER(KSR440011), KSR440011, 03/2017
Attachments: eDMR_Exceptions_Report_LEAVENWORTH STORMWATER(KSR440011)_KSR440011_03_2017_114912628_29122017.pdf; eDMR_RawData_Report_LEAVENWORTH STORMWATER(KSR440011)_KSR440011_03_2017_114914406_29122017.pdf

From: dmr4kdhe@ks.gov [mailto:dmr4kdhe@ks.gov]
Sent: Friday, December 29, 2017 11:49 AM
To: Chuck Staples
Cc: Shelly.Shores-Miller@ks.gov
Subject: eDMR: LEAVENWORTH STORMWATER(KSR440011), KSR440011, 03/2017

A signed discharge monitoring report has been received at KDHE for the subject facility and reporting time period. KDHE hereby acknowledges receipt of the data. The submittal has not yet been reviewed. If we have any questions concerning the submittal, we will notify you by e-mail or telephone.

Program Identified: Kansas Discharge Monitoring Report

State Permit No.: KSR440011

Federal Permit No.: KSR440011

Facility Name: LEAVENWORTH STORMWATER(KSR440011)

Data Month/Year: 03/2017

Signed: CHARLES H STAPLES

Signature date: 12/29/2017

Attachments:

If you have any questions concerning this e-mail, please contact KDHE at 785.296.5561 or via e-mail at dmr4kdhe@ks.gov.

This is a System Generated Email.

Mike McDonald

From: Chuck Staples
Sent: Friday, February 16, 2018 1:14 PM
To: Mike McDonald
Cc: Colette Kiszka
Subject: FW: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 04/2017
Attachments: eDMR_Exceptions_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_04_2017_123153373_29122017.pdf; eDMR_RawData_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_04_2017_123154902_29122017.pdf

From: dmr4kdhe@ks.gov [mailto:dmr4kdhe@ks.gov]
Sent: Friday, December 29, 2017 12:32 PM
To: Chuck Staples
Cc: Shelly.Shores-Miller@ks.gov
Subject: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 04/2017

A signed discharge monitoring report has been received at KDHE for the subject facility and reporting time period. KDHE hereby acknowledges receipt of the data. The submittal has not yet been reviewed. If we have any questions concerning the submittal, we will notify you by e-mail or telephone.

Program Identified: Kansas Discharge Monitoring Report

State Permit No.: M-MO12-SN01

Federal Permit No.: KSR440011

Facility Name: LEAVENWORTH STORMWATER(KSR440011)

Data Month/Year: 04/2017

Signed: CHARLES H STAPLES

Signature date: 12/29/2017

Attachments:

If you have any questions concerning this e-mail, please contact KDHE at 785.296.5561 or via e-mail at dmr4kdhe@ks.gov.

This is a System Generated Email.

Mike McDonald

From: Chuck Staples
Sent: Friday, February 16, 2018 1:14 PM
To: Mike McDonald
Cc: Colette Kiszka
Subject: FW: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 07/2017
Attachments: eDMR_Exceptions_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_07_2017_12371758_29122017.pdf; eDMR_RawData_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_07_2017_123718665_29122017.pdf

From: dmr4kdhe@ks.gov [mailto:dmr4kdhe@ks.gov]
Sent: Friday, December 29, 2017 12:37 PM
To: Chuck Staples
Cc: Shelly.Shores-Miller@ks.gov
Subject: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 07/2017

A signed discharge monitoring report has been received at KDHE for the subject facility and reporting time period. KDHE hereby acknowledges receipt of the data. The submittal has not yet been reviewed. If we have any questions concerning the submittal, we will notify you by e-mail or telephone.

Program Identified: Kansas Discharge Monitoring Report

State Permit No.: M-MO12-SN01

Federal Permit No.: KSR440011

Facility Name: LEAVENWORTH STORMWATER(KSR440011)

Data Month/Year: 07/2017

Signed: CHARLES H STAPLES

Signature date: 12/29/2017

Attachments:

If you have any questions concerning this e-mail, please contact KDHE at 785.296.5561 or via e-mail at dmr4kdhe@ks.gov.

This is a System Generated Email.

Mike McDonald

From: Chuck Staples
Sent: Friday, February 16, 2018 1:13 PM
To: Mike McDonald
Cc: Colette Kiszka
Subject: FW: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 08/2017
Attachments: eDMR_Exceptions_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_08_2017_12440241_29122017.pdf; eDMR_RawData_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_08_2017_12441910_29122017.pdf

From: dmr4kdhe@ks.gov [mailto:dmr4kdhe@ks.gov]
Sent: Friday, December 29, 2017 12:44 PM
To: Chuck Staples
Cc: Shelly.Shores-Miller@ks.gov
Subject: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 08/2017

A signed discharge monitoring report has been received at KDHE for the subject facility and reporting time period. KDHE hereby acknowledges receipt of the data. The submittal has not yet been reviewed. If we have any questions concerning the submittal, we will notify you by e-mail or telephone.

Program Identified: Kansas Discharge Monitoring Report

State Permit No.: M-MO12-SN01

Federal Permit No.: KSR440011

Facility Name: LEAVENWORTH STORMWATER(KSR440011)

Data Month/Year: 08/2017

Signed: CHARLES H STAPLES

Signature date: 12/29/2017

Attachments:

If you have any questions concerning this e-mail, please contact KDHE at 785.296.5561 or via e-mail at dmr4kdhe@ks.gov.

This is a System Generated Email.

Mike McDonald

From:	Chuck Staples
Sent:	Friday, February 16, 2018 1:13 PM
To:	Mike McDonald
Cc:	Colette Kiszka
Subject:	FW: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 10/2017
Attachments:	eDMR_Exceptions_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_10_2017_124847500_29122017.pdf; eDMR_RawData_Report_LEAVENWORTH STORMWATER(KSR440011)_M-MO12-SN01_10_2017_124849200_29122017.pdf

From: dmr4kdhe@ks.gov [mailto:dmr4kdhe@ks.gov]
Sent: Friday, December 29, 2017 12:49 PM
To: Chuck Staples
Cc: Shelly.Shores-Miller@ks.gov
Subject: eDMR: LEAVENWORTH STORMWATER(KSR440011), M-MO12-SN01, 10/2017

A signed discharge monitoring report has been received at KDHE for the subject facility and reporting time period. KDHE hereby acknowledges receipt of the data. The submittal has not yet been reviewed. If we have any questions concerning the submittal, we will notify you by e-mail or telephone.

Program Identified: Kansas Discharge Monitoring Report

State Permit No.: M-MO12-SN01

Federal Permit No.: KSR440011

Facility Name: LEAVENWORTH STORMWATER(KSR440011)

Data Month/Year: 10/2017

Signed: CHARLES H STAPLES

Signature date: 12/29/2017

Attachments:

If you have any questions concerning this e-mail, please contact KDHE at 785.296.5561 or via e-mail at dmr4kdhe@ks.gov.

This is a System Generated Email.

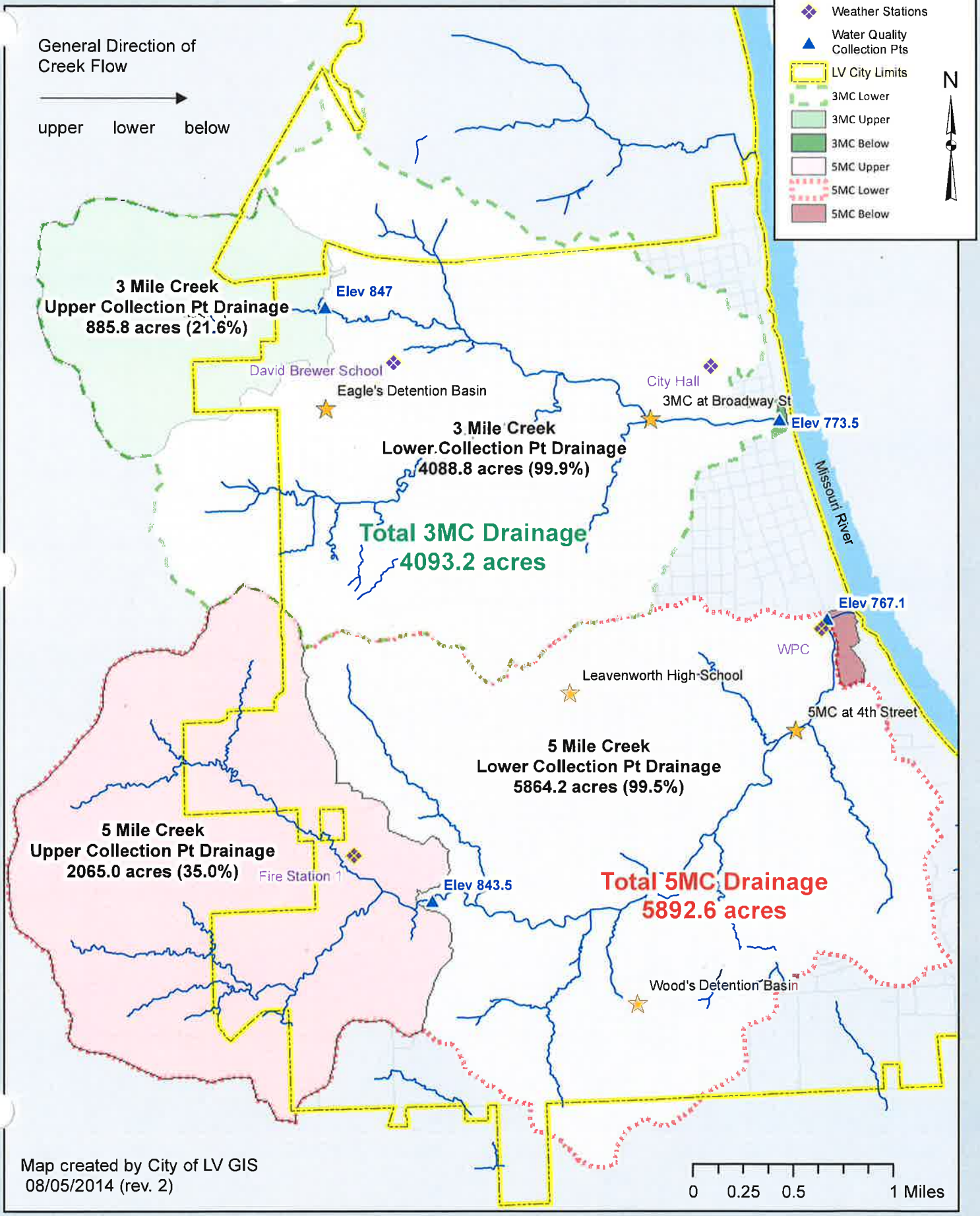
Appendix B
TMDL
N/A

No TMDL monitoring required. Stream monitoring information included in Appendix A and Appendix C, and submitted to KDHE electronically.

Appendix C
Selected maps and charts related to measurement of rainfall and stream stage with comments

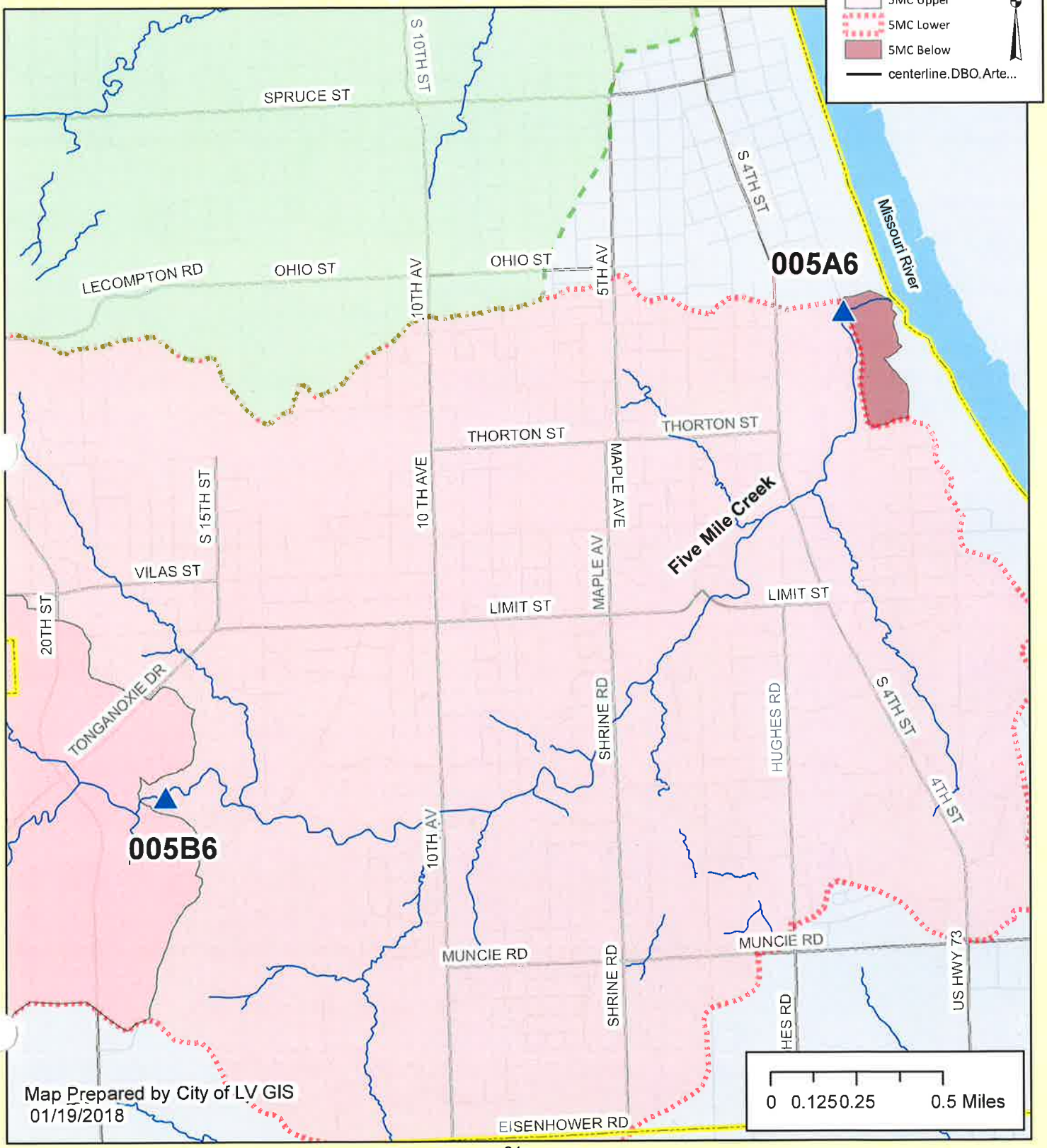
- Overview map of drainage basins, water quality sampling points, rain gauges and detention basins
- Comments on
  - Sampling Rising Streams
  - Measuring Stream Volume
  - Detention Basin Effectiveness
- Selected graphs of Three-Mile and Five-Mile Creeks
- Selected graphs of detention basins

City of Leavenworth, KS
Stormwater Management Data Collection



City of Leavenworth, KS
Three Mile Creek Sampling Sites

City of Leavenworth, KS
Five Mile Creek Sampling Sites



The following topics have been addressed in previous reports. There is some additional information from 2017 included in this report.

Difficulty in obtaining samples in the rising stream

The City has conducted a sampling program each year since 2014 as part of the MS4 permit. It is understood that KDHE and the City are interested in determining the impact of City activity on quality of water flowing through the City.

It has been difficult to have the sampling team obtain samples from a rising stream stage of both Three-Mile and Five-Mile Creeks. The graphs in this appendix from 2017 of Three-Mile and Five-Mile Creeks show the rapid rise and fall of the water surface elevation and sampling time. It is clear that it is nearly impossible to meet the requirements of sampling a rising stream.

The City has evaluated the costs of installation of permanent monitors in the past. The cost of between $20,000 and $40,000 continues to be a barrier to their installation. The staff time needed to oversee the operation of permanent monitors is also a concern.

Staff implemented some new practices to the sample collection routines 2017. In general – samples were collected once there was at least 0.5 inch of rainfall and the weather was considered safe for sample collection. The results are shown in the attached graphs. There was no identified improvement toward meeting the goal of sampling a rising stream. Time to gather all samples was decreased as operators become more familiar with the process.

Other focus items for 2017 included:

- Follow-up measurements on some anticipated detention basin modifications.
  This was interesting and the data was shared with peers. No direct action occurred due to the data.
- Measuring a weir installed in a creek to compare flow with previous events.
  Basic analysis showed that there was (as expected) a delay in peak flows with a reduction in volume of peak flows. The installation is working as anticipated.
- Use of a portable TSS meter to evaluate fluctuations in TSS by rerunning the sample route for TSS information only. Results of the handheld TSS meter fluctuated substantially from laboratory results and the use of the hand-held meter will be discontinued in future sampling events.
- Ongoing discussions between staff and also with manufacturers related to affordable equipment better suited the needs of the City and KDHE has occurred without any outcomes.

Difficulty in measuring streamflow (volume)

The City has conducted several years of sampling effort as part of the MS4 permit. Accuracy of the manual flow volume calculations was a concern. An engineering firm was contracted to provide Stage-Discharge Curves for all sampling locations. Tis provided a more repeatable calculation that requires only the depth of the flow. These charts were used in the 2014 and 2015 annual reports. A review of water volume calculations in 20169 indicate that the Stage-Discharge Curves will not work as the depth data and velocity appear to not be represented accurately in the tables. Staff discussions indicate that the creek channel may have eroded during the year. Further measurements and evaluation are necessary. Flow data for 2016 was calculated from observed velocities and an assumed channel width. 2017 data will be calculated similarly.

Detention Basin Concerns (new thoughts for 2017)

A brief review of several detention basin charts from earlier measurements show many of the early designed basins pass a lot of water through very quickly. Discussions with design professionals indicate that these were an early design that basically allowed for storage and release for of the design storm. They work fine to mitigate that, and are simple to construct. They do very little mitigation on smaller storms, and smaller storms are the most damaging to creek banks and other erosion potential areas.

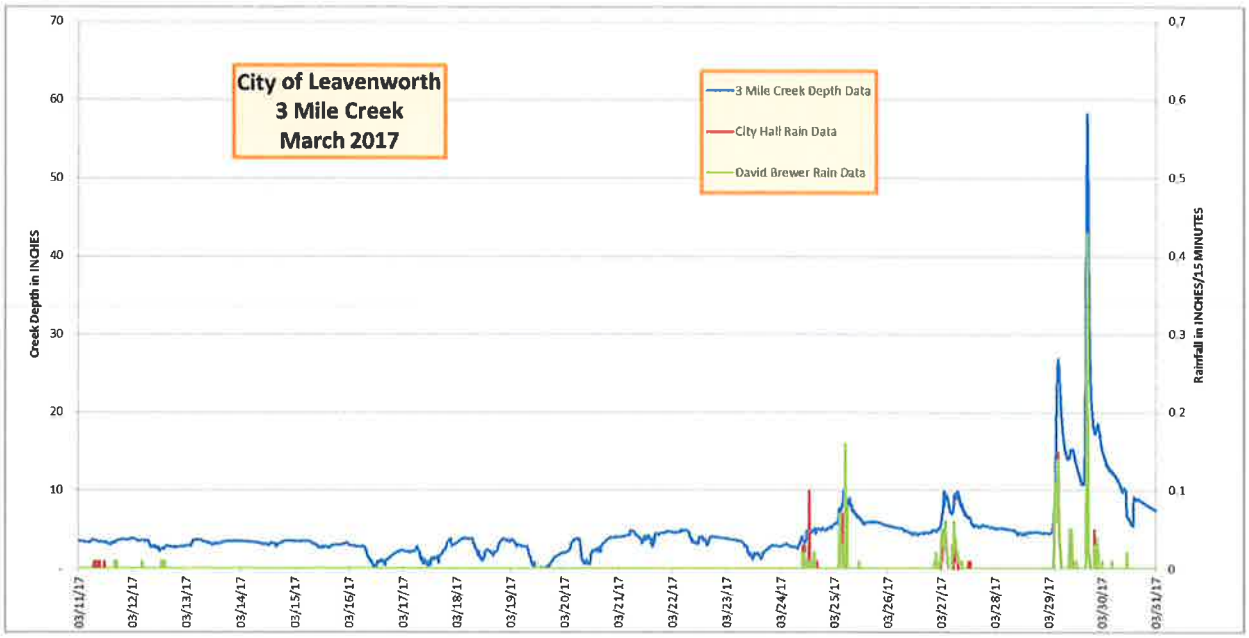
City efforts to work with basin owners on some modifications to make the responses more in keeping with modern design practices has been unsuccessful. This is generally due to lack of regulatory authority and a perception that if it was "OK" when it was approved, it should be "OK" now except for ongoing routine maintenance.

City staff has discussed the potential for requirements related to monitoring performance of basins in actual rainfall events with engineering and other municipal staff members. This type of work is generally regarded as a good idea.

Other notable measurement items

- City has monitored performance of 72" tall 20 degree V-Notch weir installed in an industrial area. Flow results were as expected and it appears the goals of reducing CFS of peak flow and delaying the timing of the peak flow have been met. Staff is evaluating if there are benefits of reduced erosion downstream.

- The data provided by the City for a large RCB crossing on Eisenhower Road was instrumental in providing the designer of the upstream Business and Technology Park with actual flow data to ensure the new structure and associated detention basin does not exceed current condition flow patterns, protecting downstream ponds from excess volume.


City of Leavenworth
3 Mile Creek
March 2017
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTES
70
60
50
40
30
20
10
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
03/11/17
03/12/17
03/13/17
03/14/17
03/15/17
03/16/17
03/17/17
03/18/17
03/19/17
03/20/17
03/21/17
03/22/17
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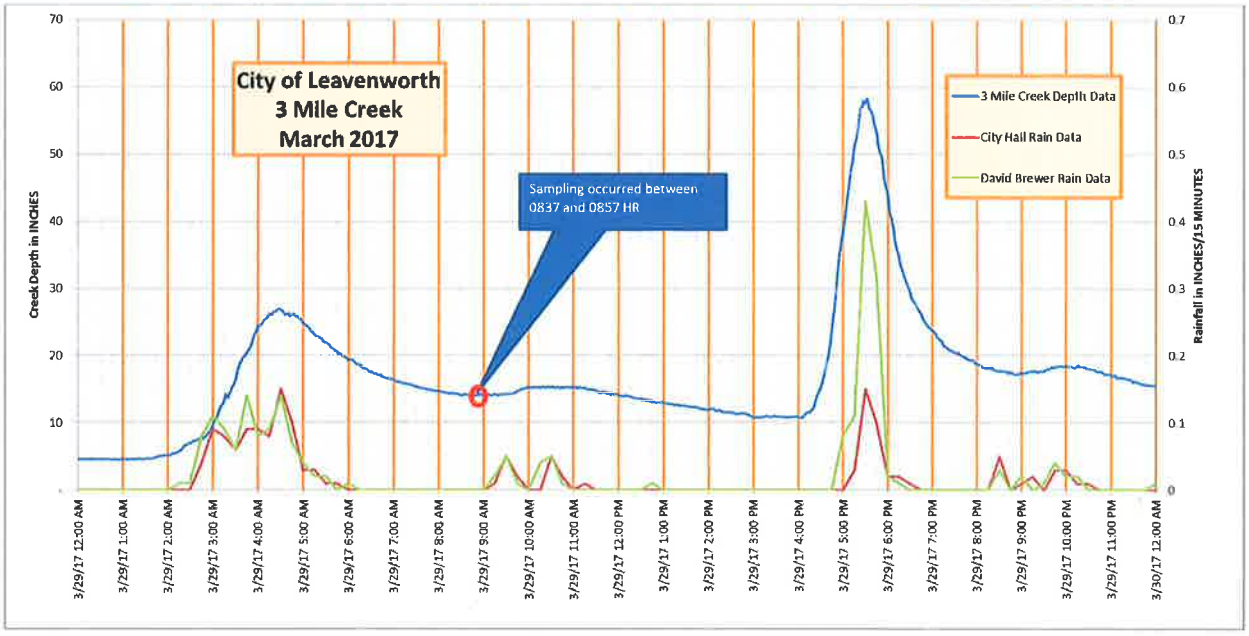
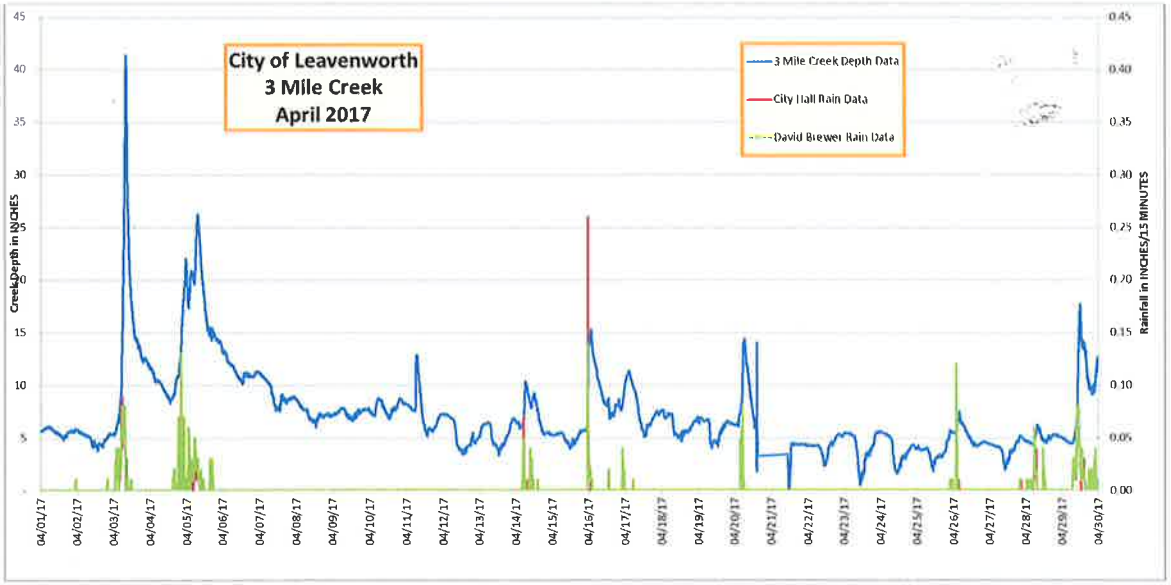
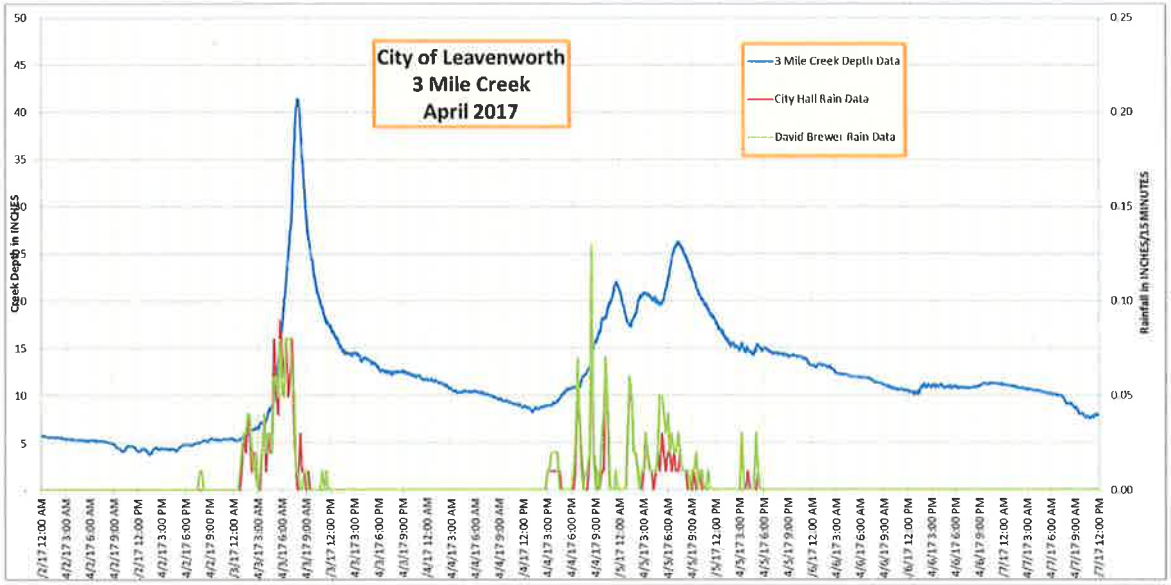
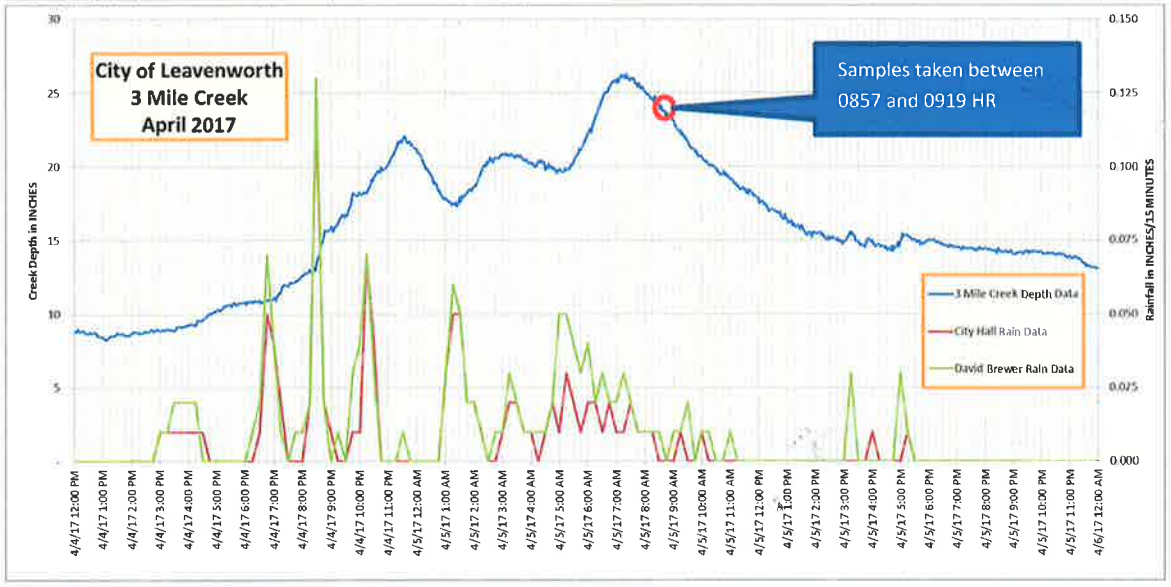
03/28/17
03/29/17
03/30/17
03/31/17

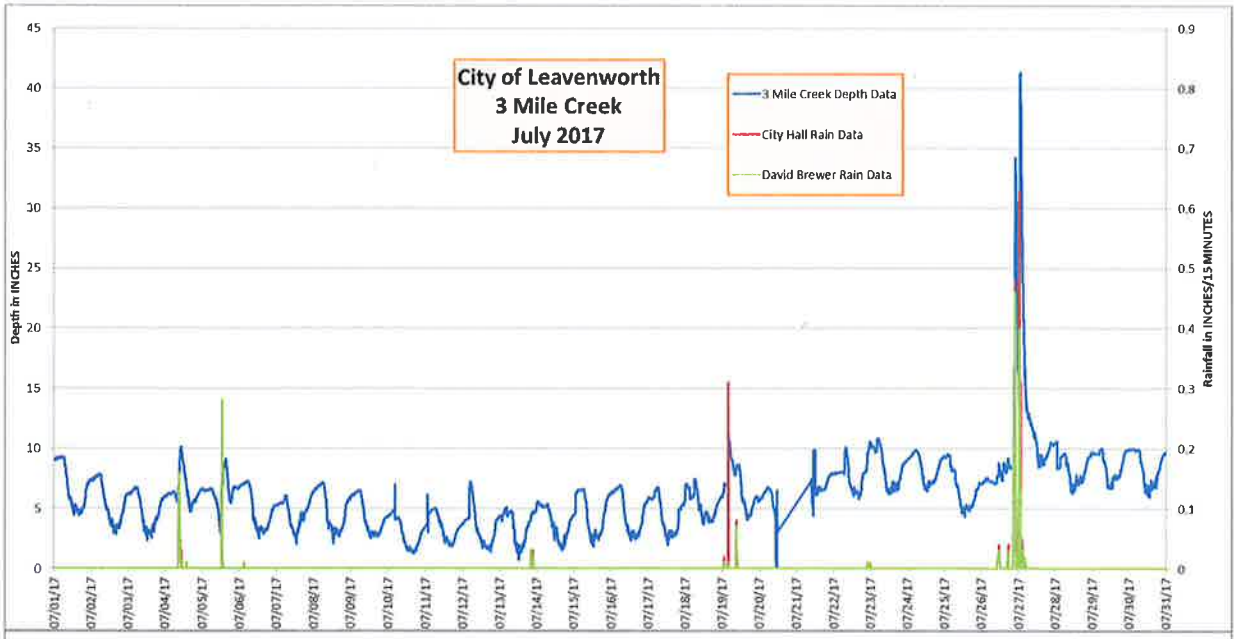

City of Leavenworth
3 Mile Creek
March 2017
Sampling occurred between
0837 and 0857 HR
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTES
70
60
50
40
30
20
10
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3/29/17 12:00 AM
3/29/17 1:00 AM
3/29/17 2:00 AM
3/29/17 3:00 AM
3/29/17 4:00 AM
3/29/17 5:00 AM
3/29/17 6:00 AM
3/29/17 7:00 AM
3/29/17 8:00 AM
3/29/17 9:00 AM
3/29/17 10:00 AM
3/29/17 11:00 AM
3/29/17 12:00 PM
3/29/17 1:00 PM
3/29/17 2:00 PM
3/29/17 3:00 PM
3/29/17 4:00 PM
3/29/17 5:00 PM
3/29/17 6:00 PM
3/29/17 7:00 PM
3/29/17 8:00 PM
3/29/17 9:00 PM
3/29/17 10:00 PM
3/29/17 11:00 PM
3/30/17 12:00 AM

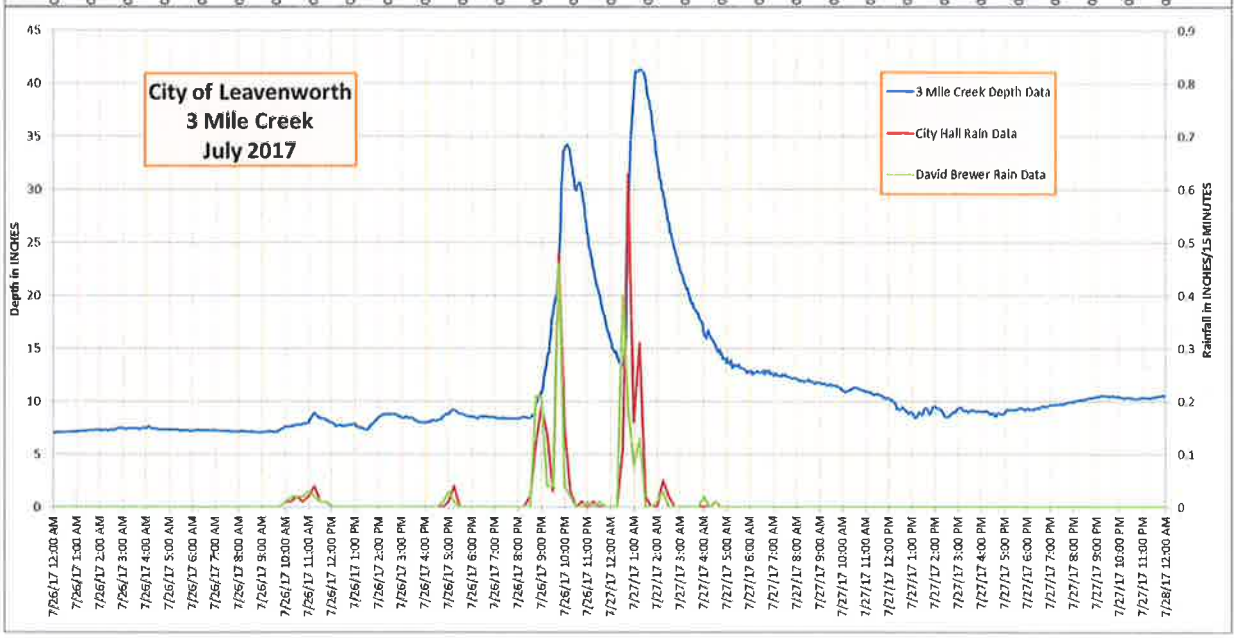
City of Leavenworth
3-Mile Creek
April 2017

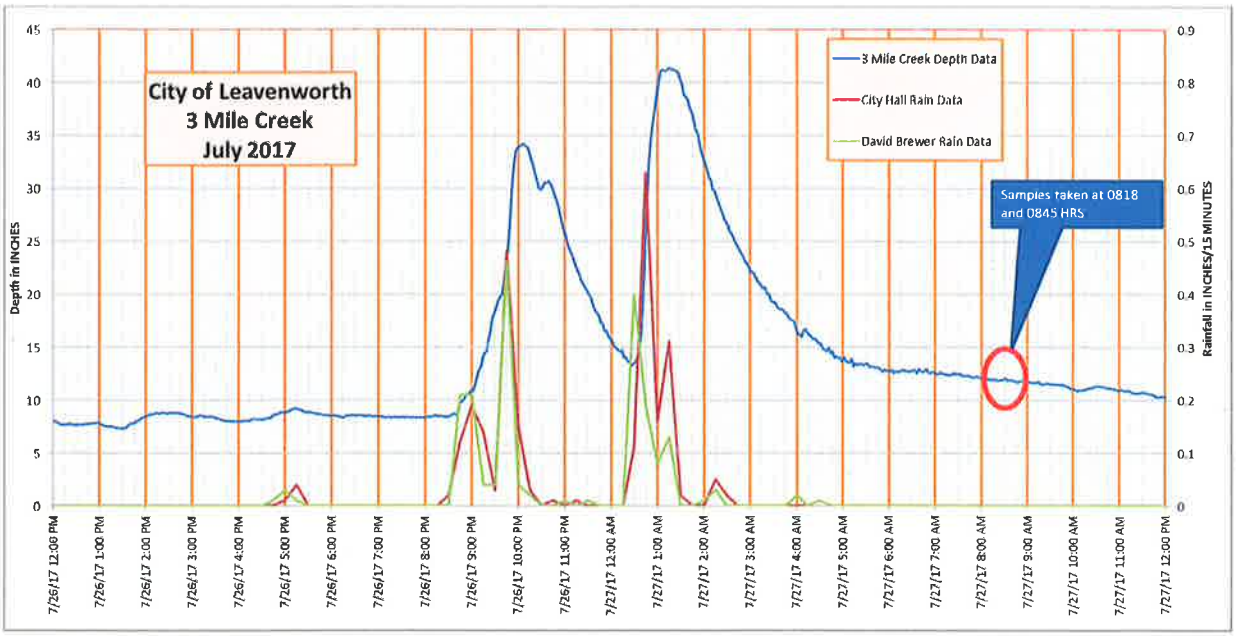


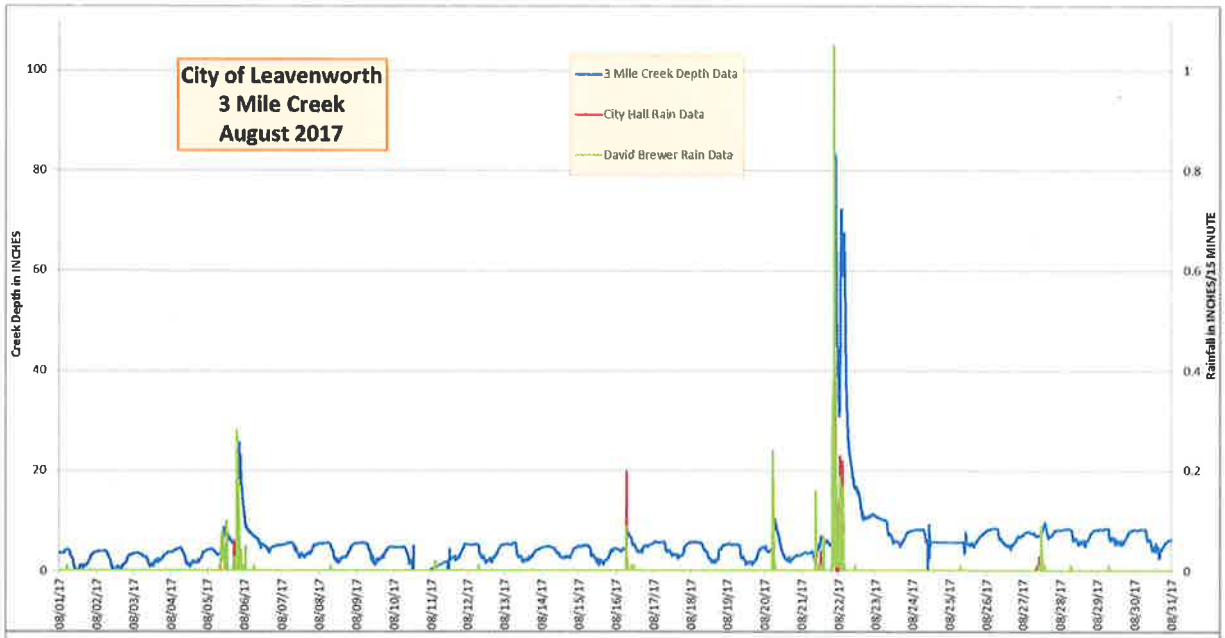




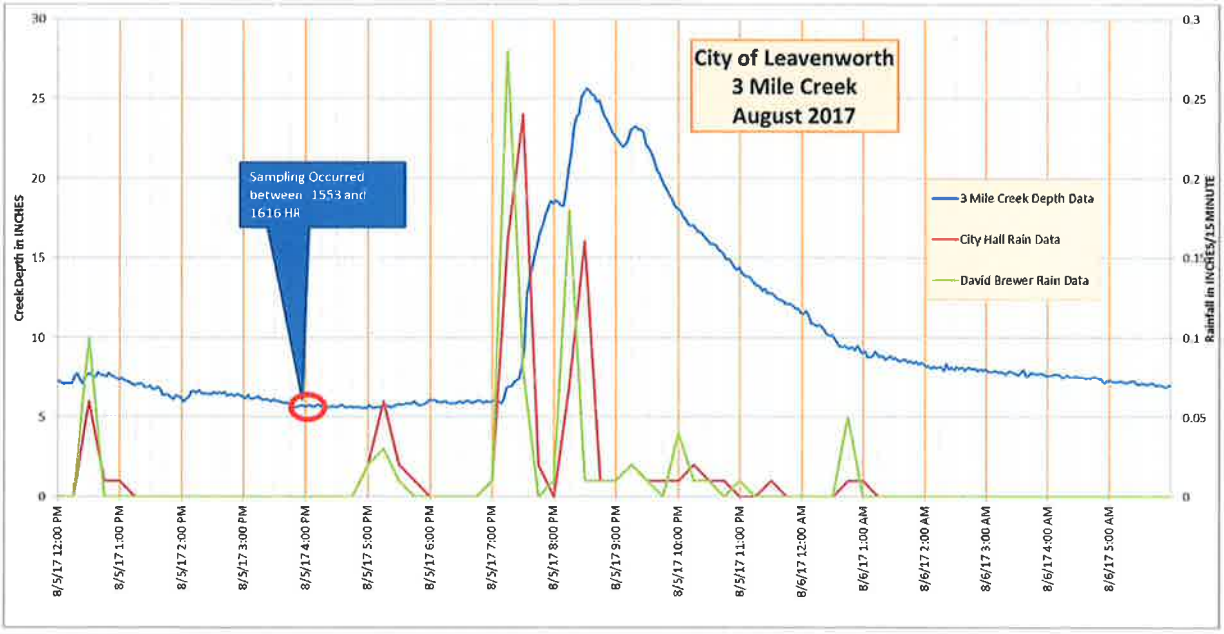

City of Leavenworth
3 Mile Creek
July 2017
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Depth in INCHES
Rainfall in INCHES/15 MINUTES


City of Leavenworth
3 Mile Creek
July 2017
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Depth in INCHES
Rainfall in INCHES/15 MINUTES

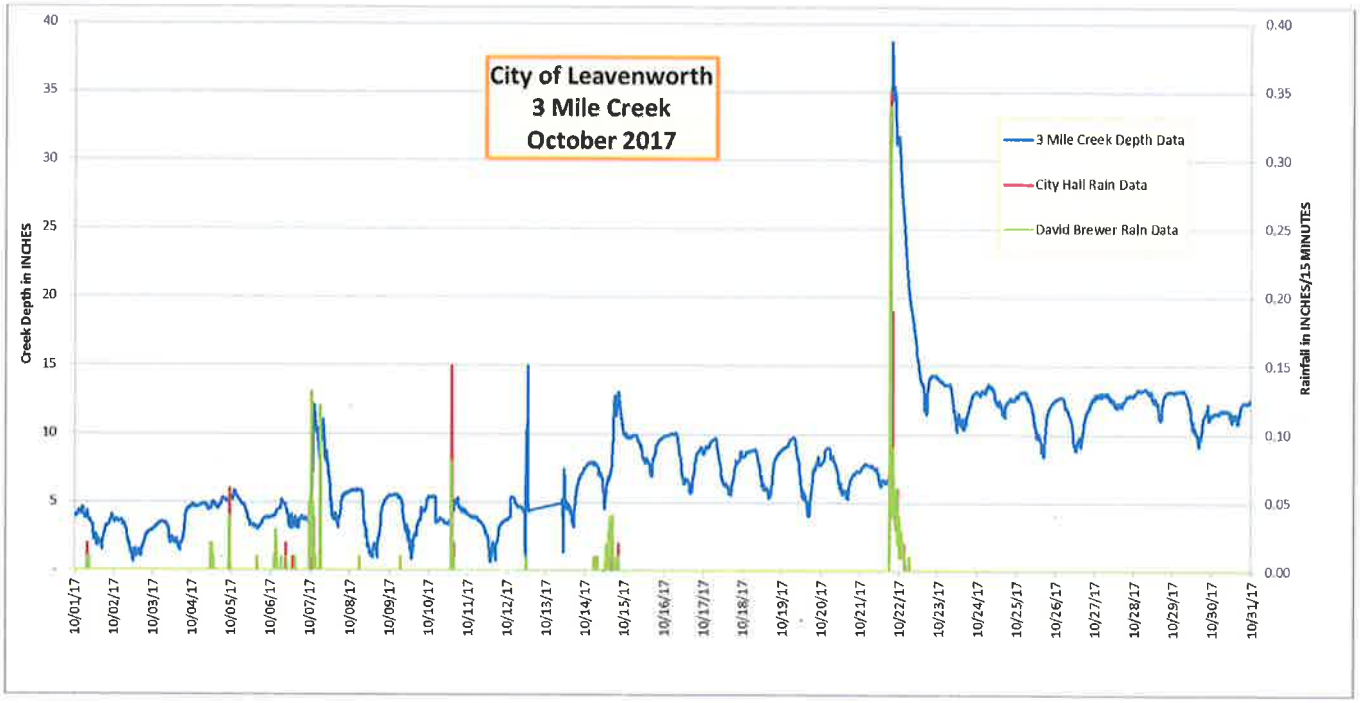

City of Leavenworth
3 Mile Creek
July 2017
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Samples taken at 0818 and 0845 HRS
Depth in INCHES
Rainfall in INCHES/15 MINUTES

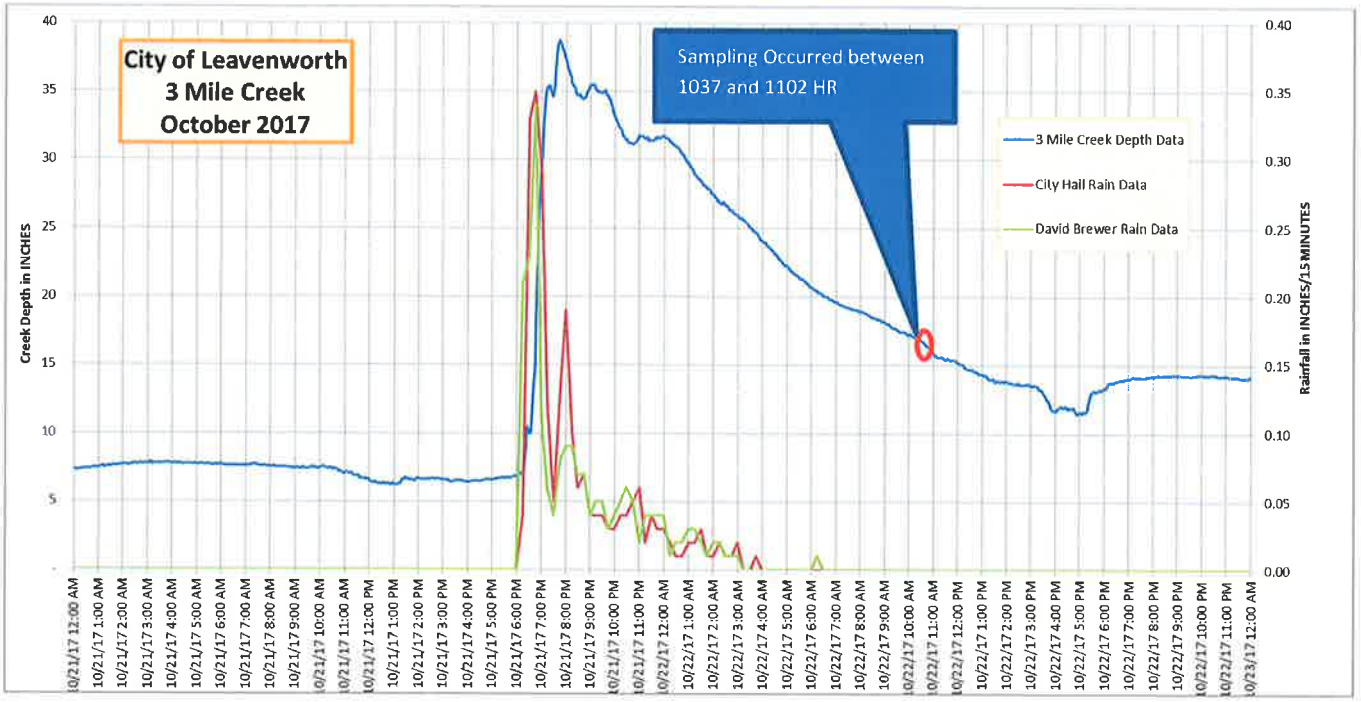

City of Leavenworth
3 Mile Creek
August 2017
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTE


City of Leavenworth
3 Mile Creek
August 2017
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTE

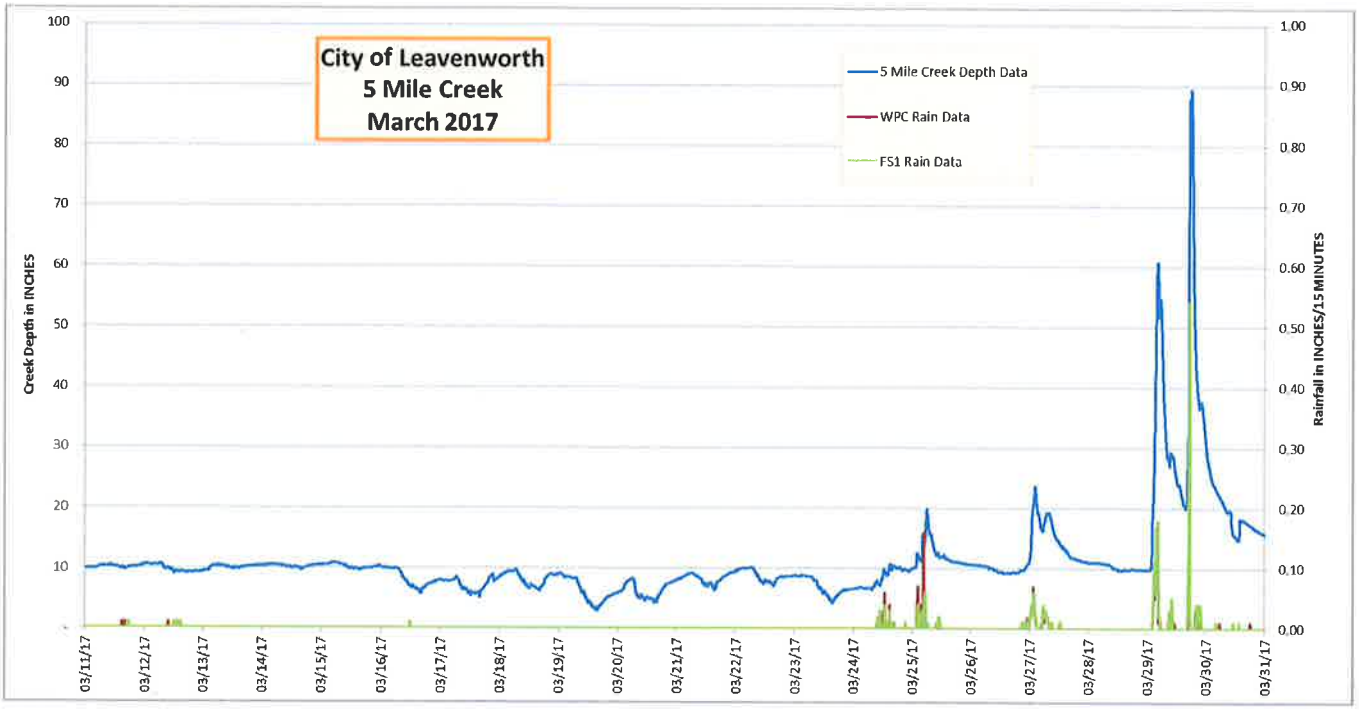

City of Leavenworth
3 Mile Creek
August 2017
Sampling Occurred between 1553 and 1616 HR
3 Mile Creek Depth Data
City Hall Rain Data
David Brewer Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTE

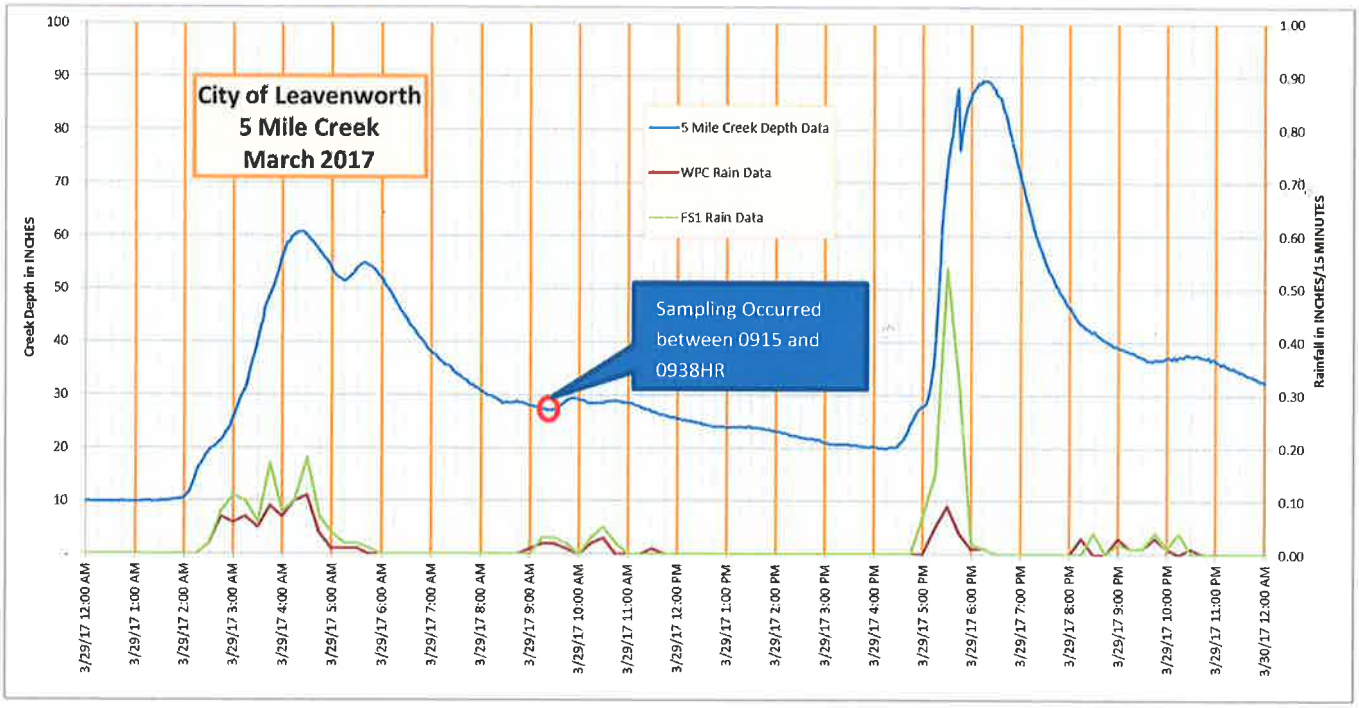
City of Leavenworth
3-Mile Creek
October 2017



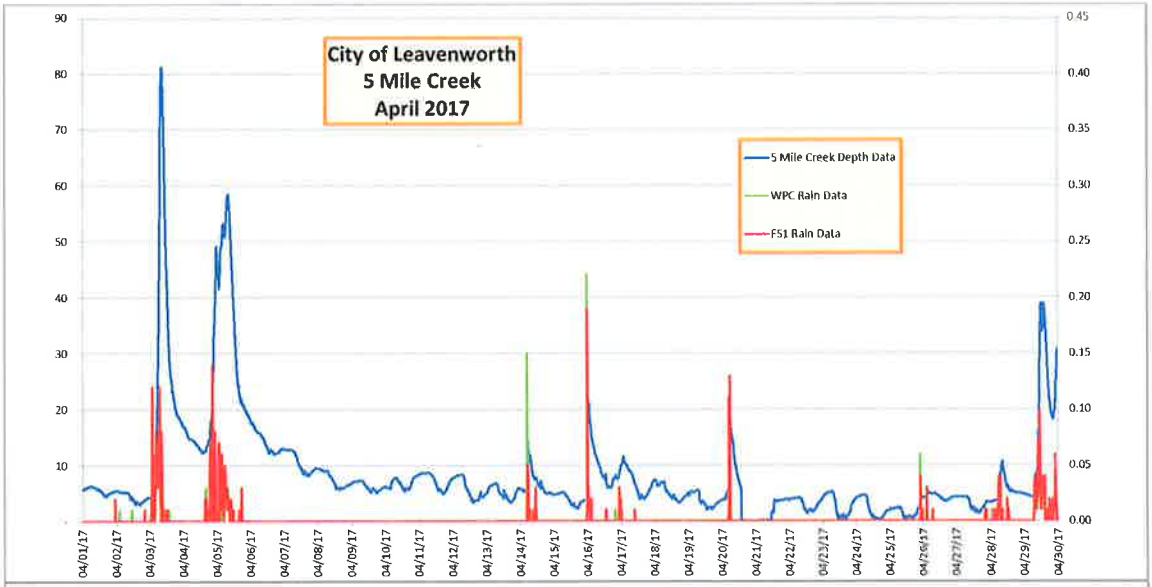


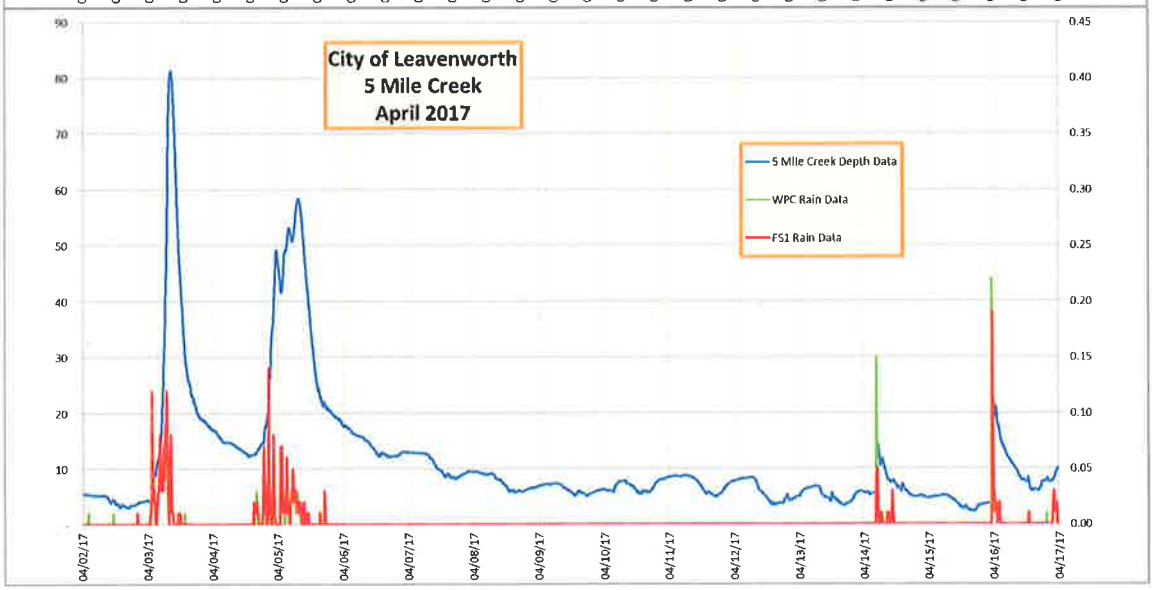
City of Leavenworth
Five Mile Creek
March 2017

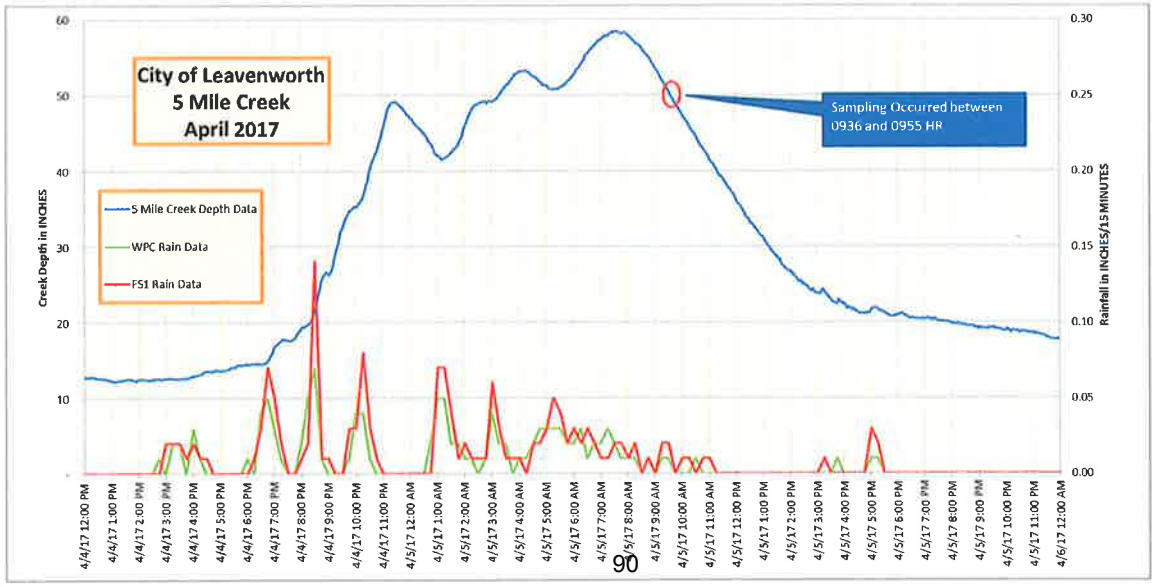


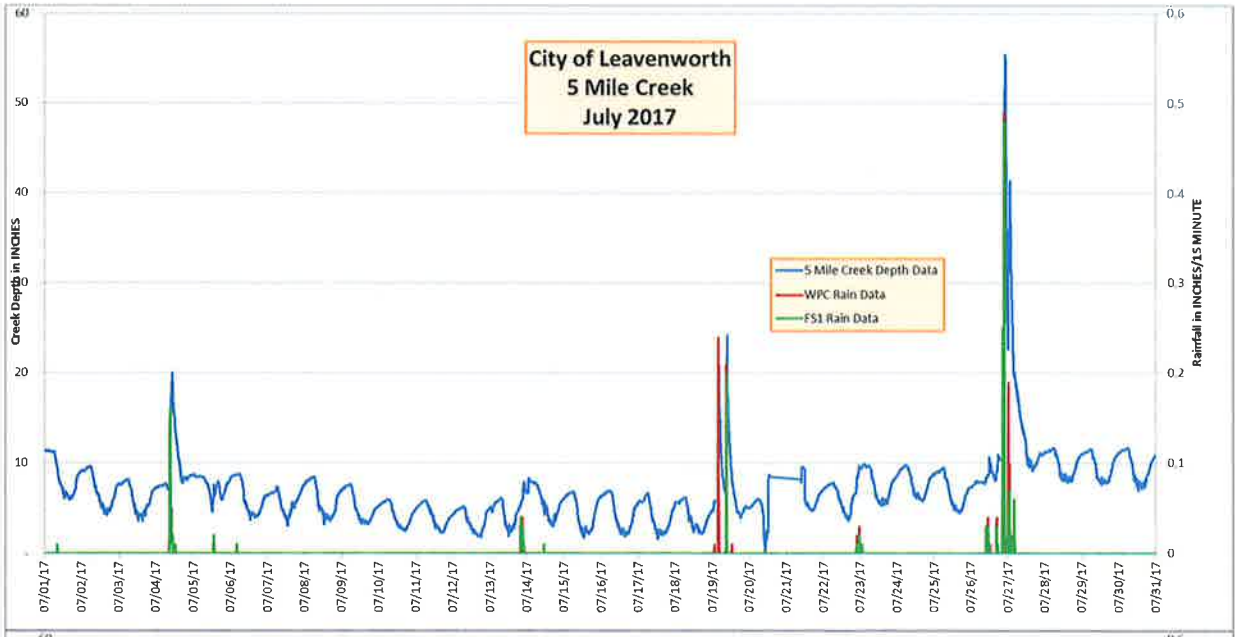


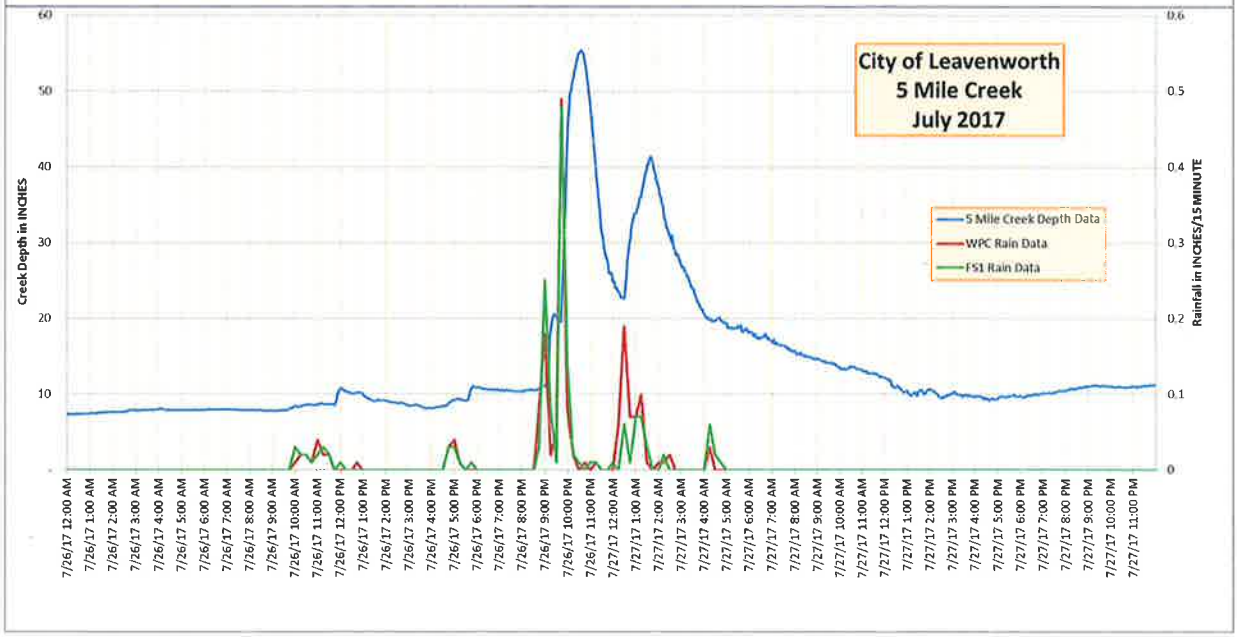
City of Leavenworth
5-Mile Creek
April 2017

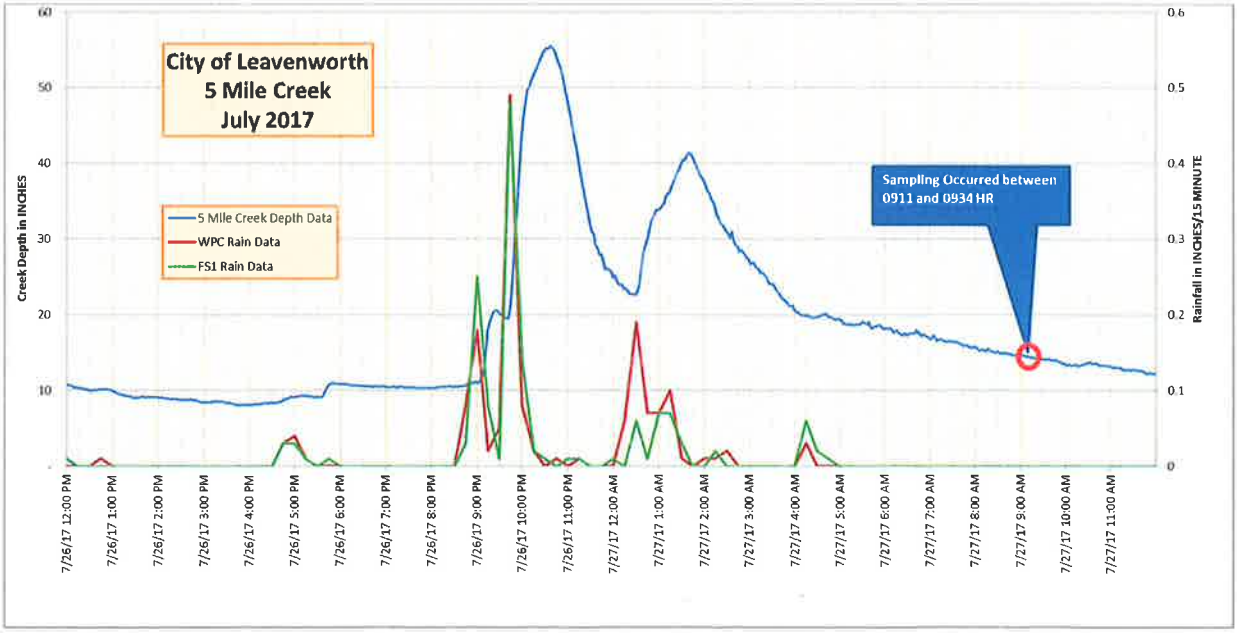


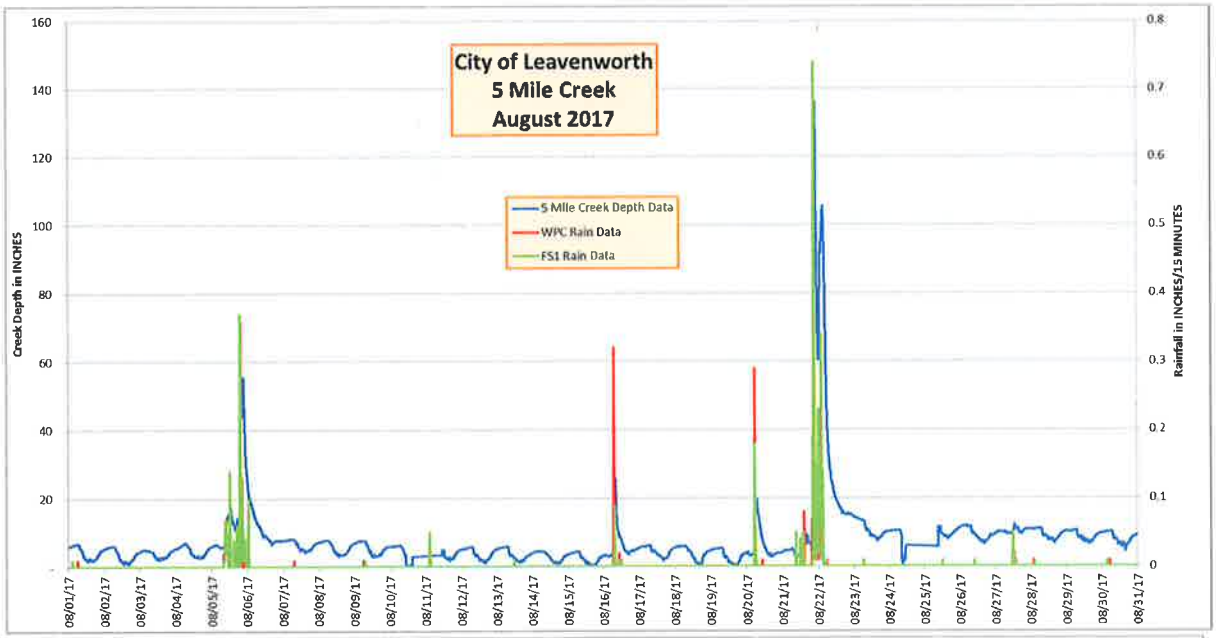


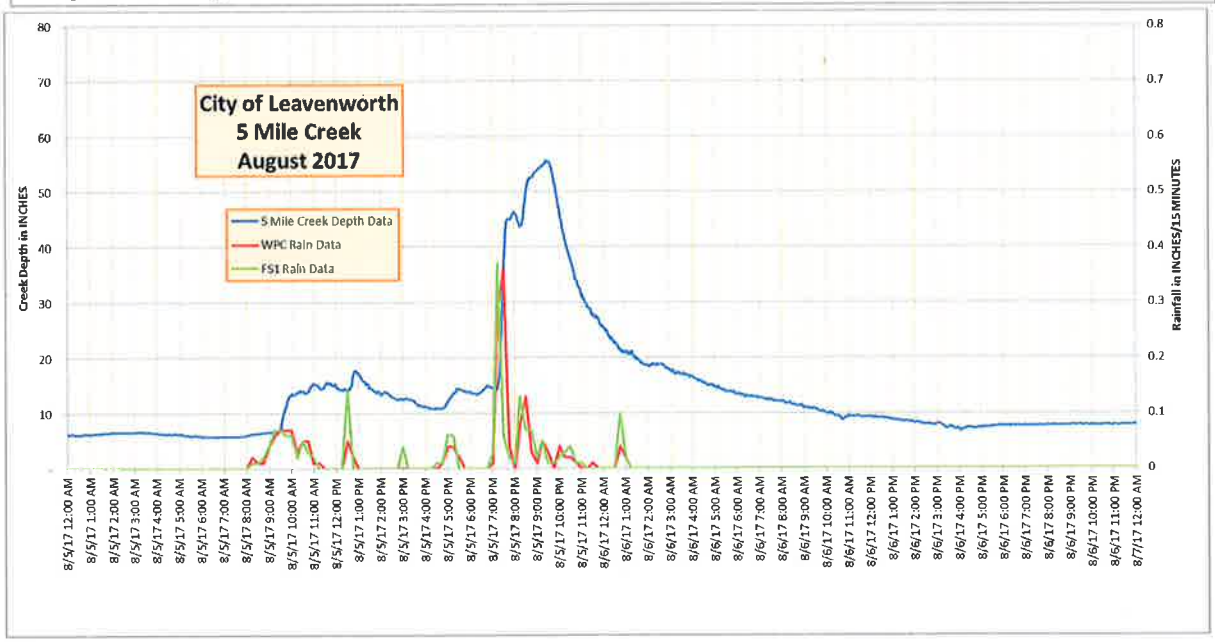


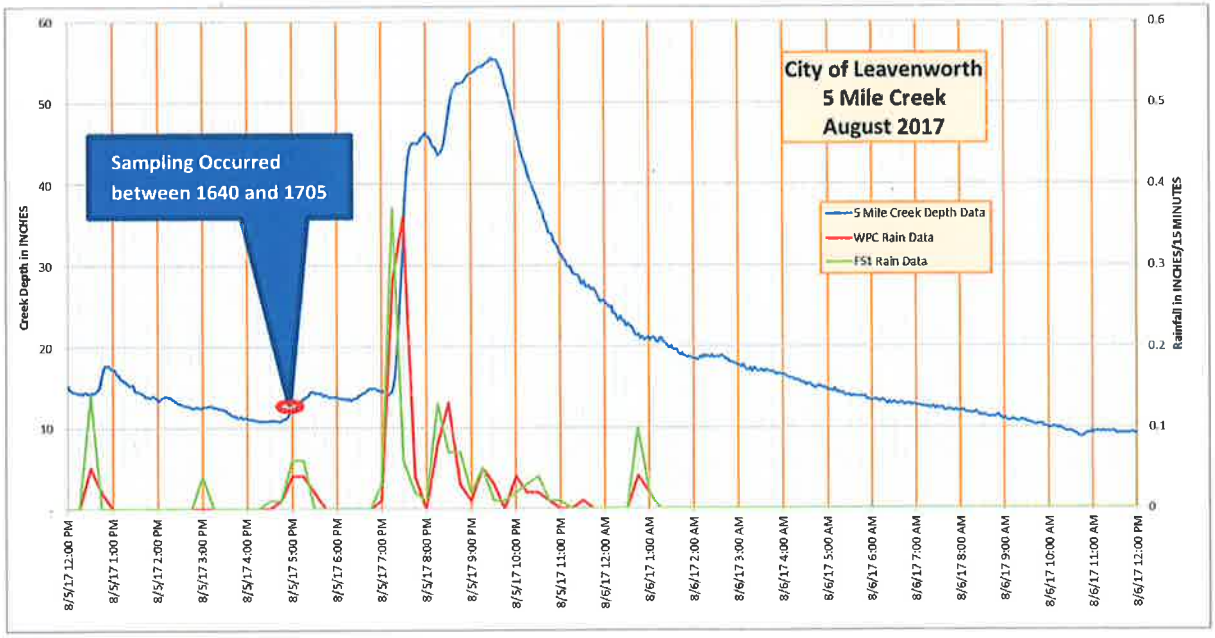

City of Leavenworth
5 Mile Creek
July 2017
5 Mile Creek Depth Data
WPC Rain Data
FS1 Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTE


City of Leavenworth
5 Mile Creek
July 2017
5 Mile Creek Depth Data
WPC Rain Data
FS1 Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTE

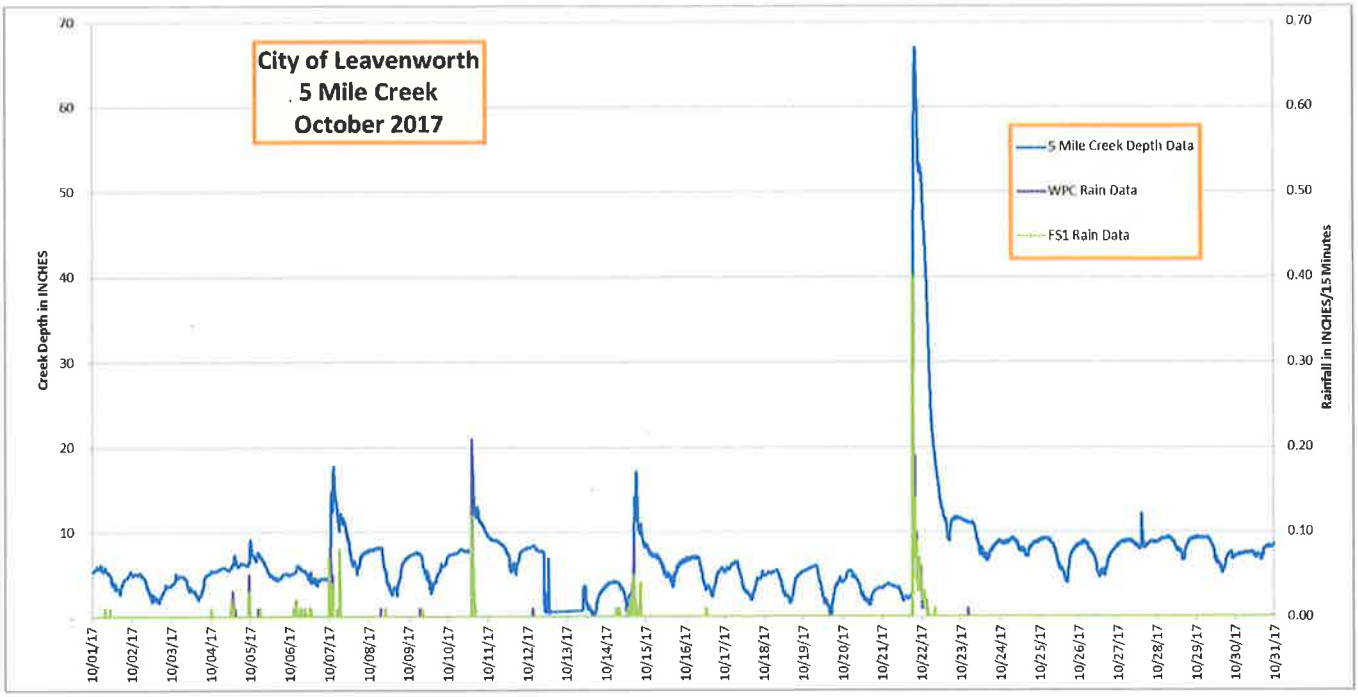

City of Leavenworth
5 Mile Creek
July 2017
5 Mile Creek Depth Data
WPC Rain Data
FS1 Rain Data
Sampling Occurred between
0911 and 0934 HR
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTE

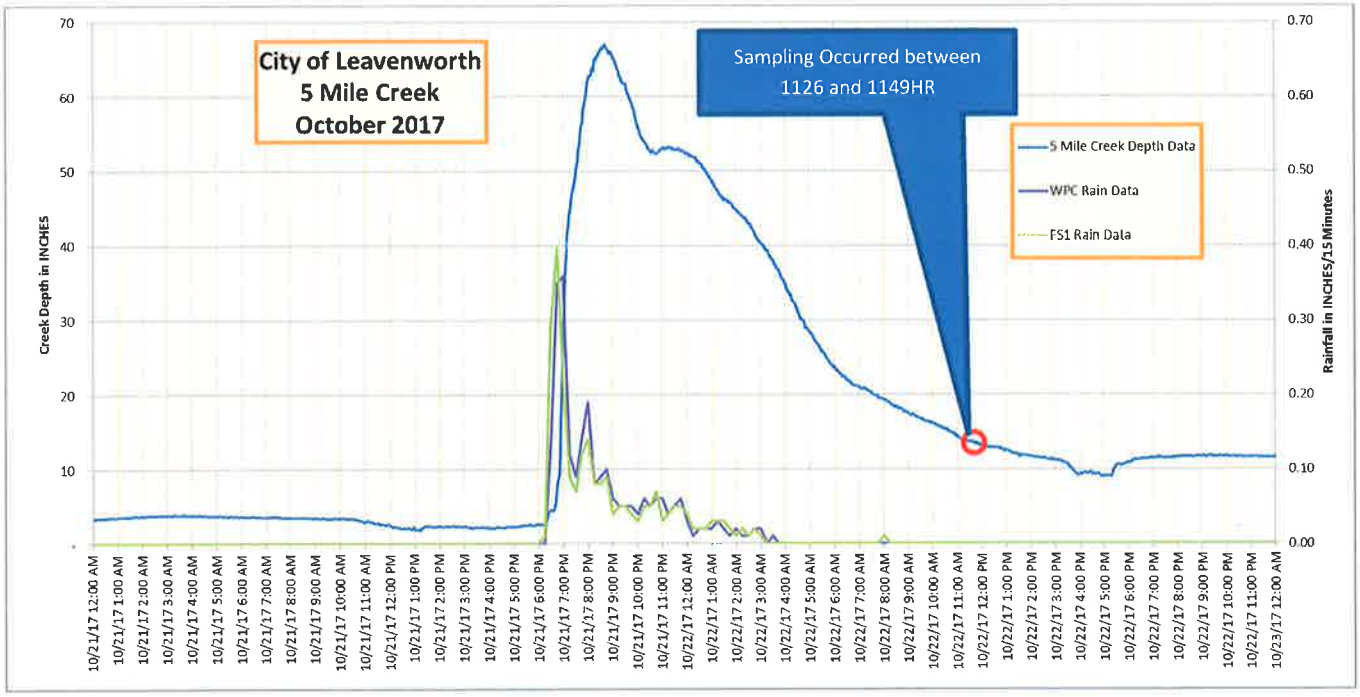

City of Leavenworth
5 Mile Creek
August 2017
5 Mile Creek Depth Data
WPC Rain Data
FS1 Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTES

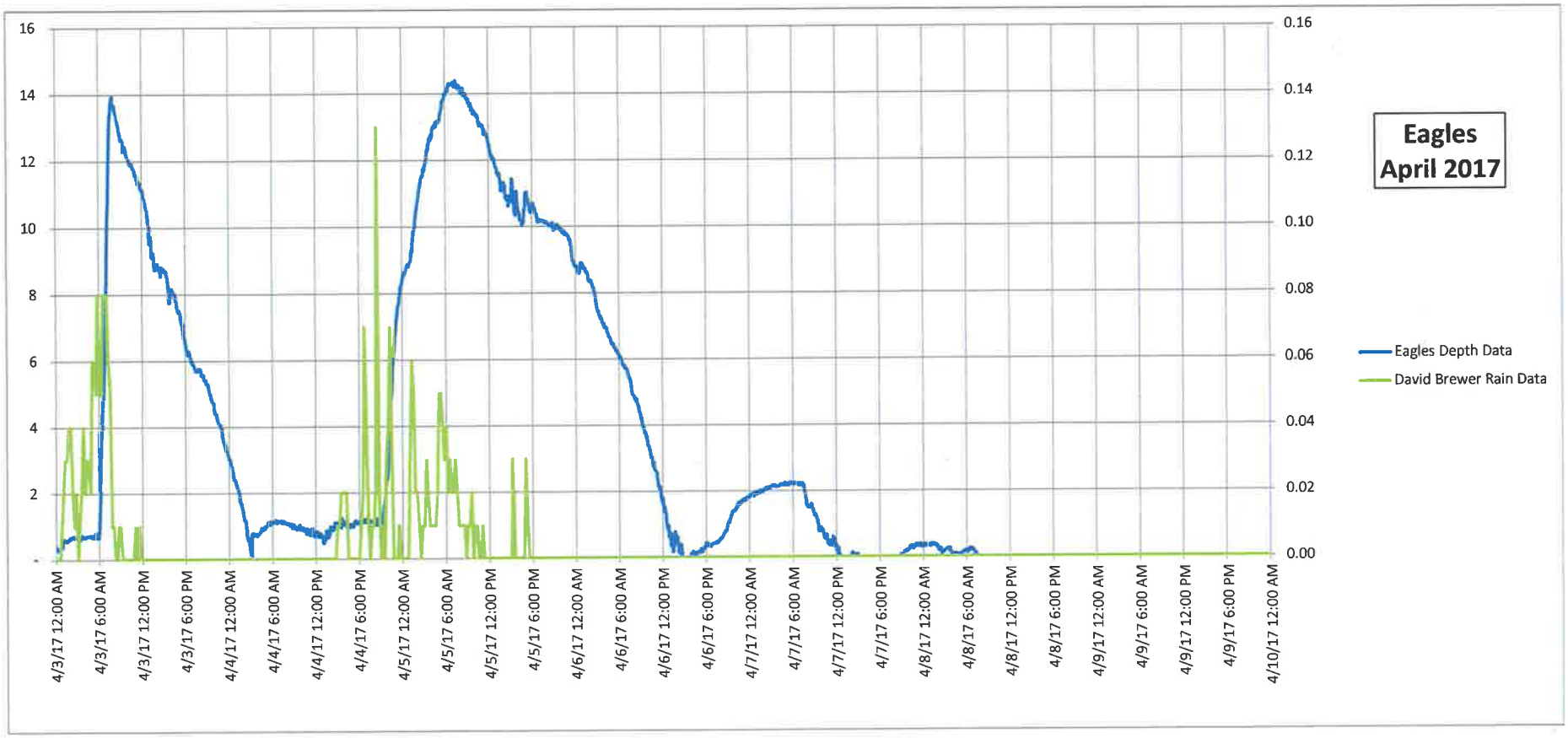

City of Leavenworth
5 Mile Creek
August 2017
5 Mile Creek Depth Data
WPC Rain Data
FS1 Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTES


Sampling Occurred
between 1640 and 1705
City of Leavenworth
5 Mile Creek
August 2017
5 Mile Creek Depth Data
WPC Rain Data
FS1 Rain Data
Creek Depth in INCHES
Rainfall in INCHES/15 MINUTES

City of Leavenworth
5-Mile Creek
October 2017






Eagles
April 2017
Eagles Depth Data
David Brewer Rain Data
16
14
12
10
8
6
4
2
-
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
4/3/17 12:00 AM
4/3/17 6:00 AM
4/3/17 12:00 PM
4/3/17 6:00 PM
4/4/17 12:00 AM
4/4/17 6:00 AM
4/4/17 12:00 PM
4/4/17 6:00 PM
4/5/17 12:00 AM
4/5/17 6:00 AM
4/5/17 12:00 PM
4/5/17 6:00 PM
4/6/17 12:00 AM
4/6/17 6:00 AM
4/6/17 12:00 PM
4/6/17 6:00 PM
4/7/17 12:00 AM
4/7/17 6:00 AM
4/7/17 12:00 PM
4/7/17 6:00 PM
4/8/17 12:00 AM
4/8/17 6:00 AM
4/8/17 12:00 PM
4/8/17 6:00 PM
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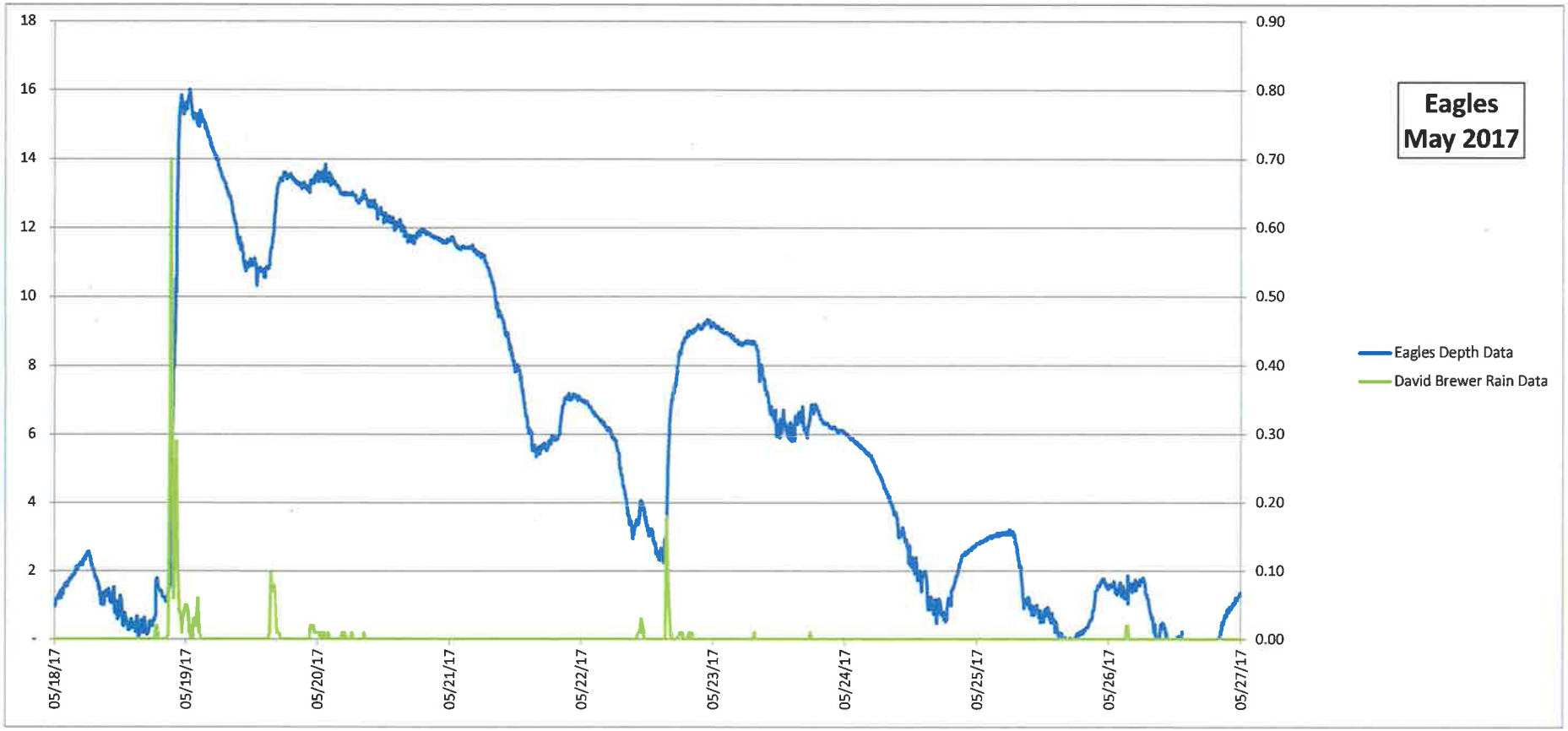
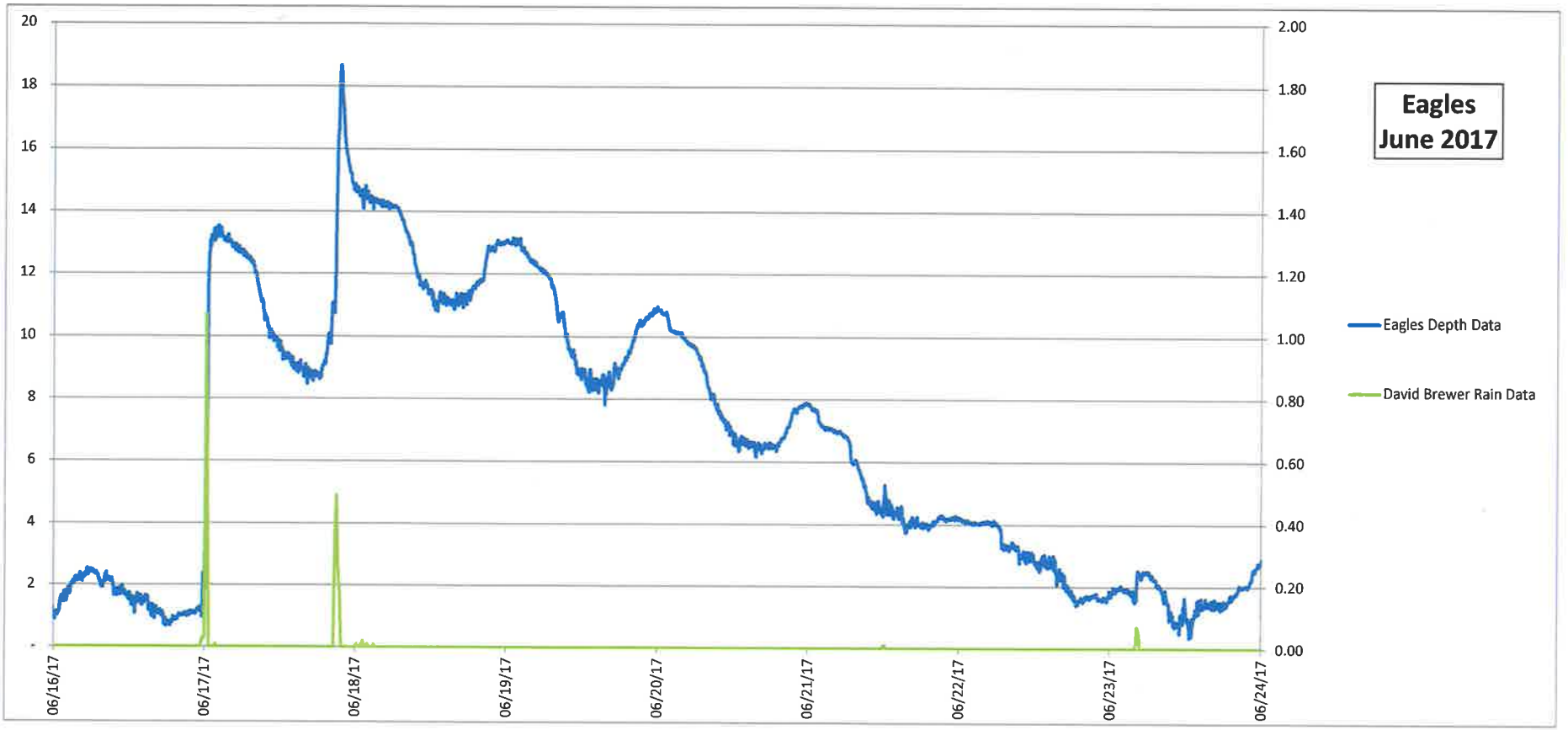
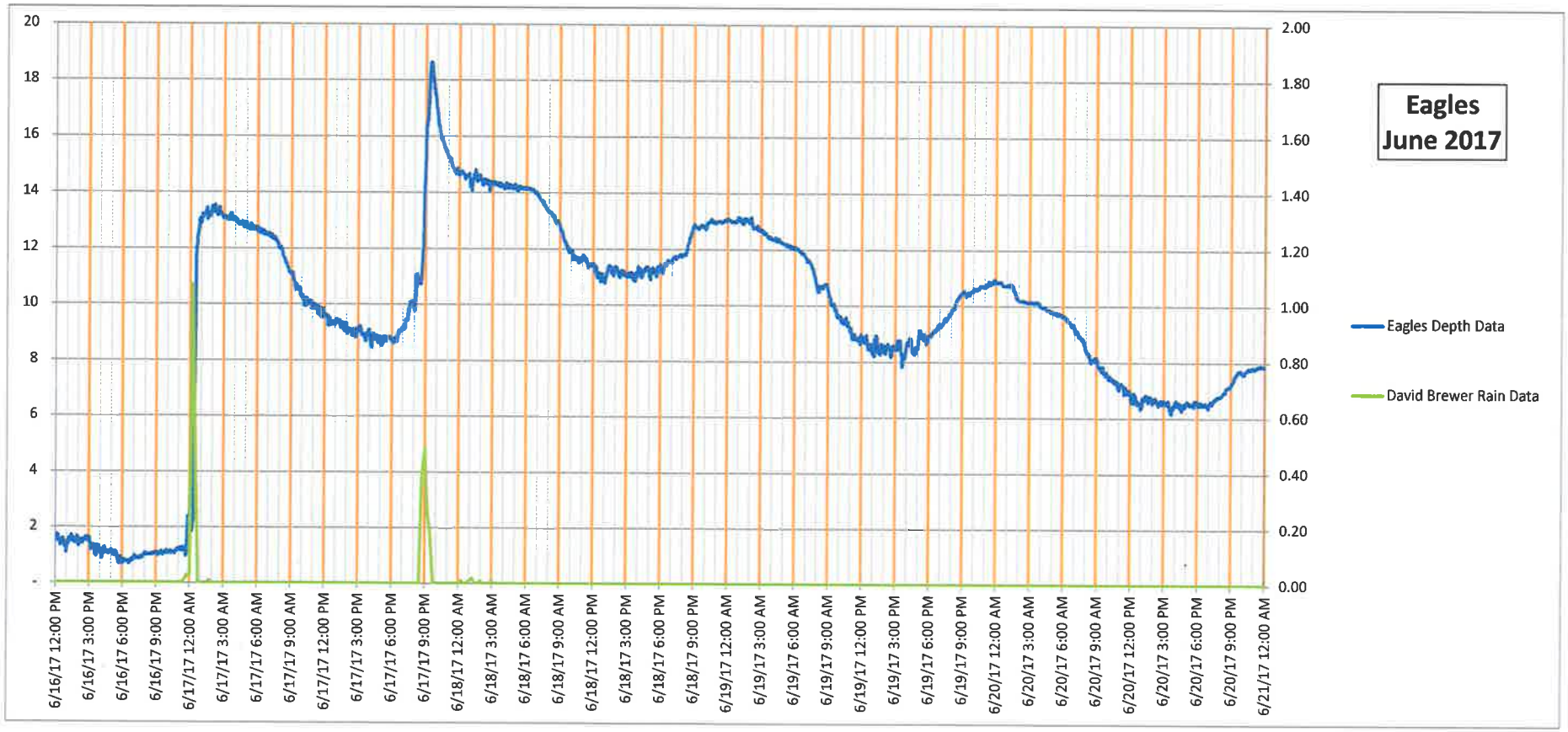
4/10/17 12:00 AM


Eagles
May 2017
Eagles Depth Data
David Brewer Rain Data
18
16
14
12
10
8
6
4
2
-
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
05/18/17
05/19/17
05/20/17
05/21/17
05/22/17
05/23/17
05/24/17
05/25/17
05/26/17
05/27/17


Eagles
June 2017
Eagles Depth Data
David Brewer Rain Data
20
18
16
14
12
10
8
6
4
2
-
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
06/16/17
06/17/17
06/18/17
06/19/17
06/20/17
06/21/17
06/22/17
06/23/17
06/24/17


Eagles
June 2017
Eagles Depth Data
David Brewer Rain Data
20
18
16
14
12
10
8
6
4
2
-
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
6/16/17 12:00 PM
6/16/17 3:00 PM
6/16/17 6:00 PM
6/16/17 9:00 PM
6/17/17 12:00 AM
6/17/17 3:00 AM
6/17/17 6:00 AM
6/17/17 9:00 AM
6/17/17 12:00 PM
6/17/17 3:00 PM
6/17/17 6:00 PM
6/17/17 9:00 PM
6/18/17 12:00 AM
6/18/17 3:00 AM
6/18/17 6:00 AM
6/18/17 9:00 AM
6/18/17 12:00 PM
6/18/17 3:00 PM
6/18/17 6:00 PM
6/18/17 9:00 PM
6/19/17 12:00 AM
6/19/17 3:00 AM
6/19/17 6:00 AM
6/19/17 9:00 AM
6/19/17 12:00 PM
6/19/17 3:00 PM
6/19/17 6:00 PM
6/19/17 9:00 PM
6/20/17 12:00 AM
6/20/17 3:00 AM
6/20/17 6:00 AM
6/20/17 9:00 AM
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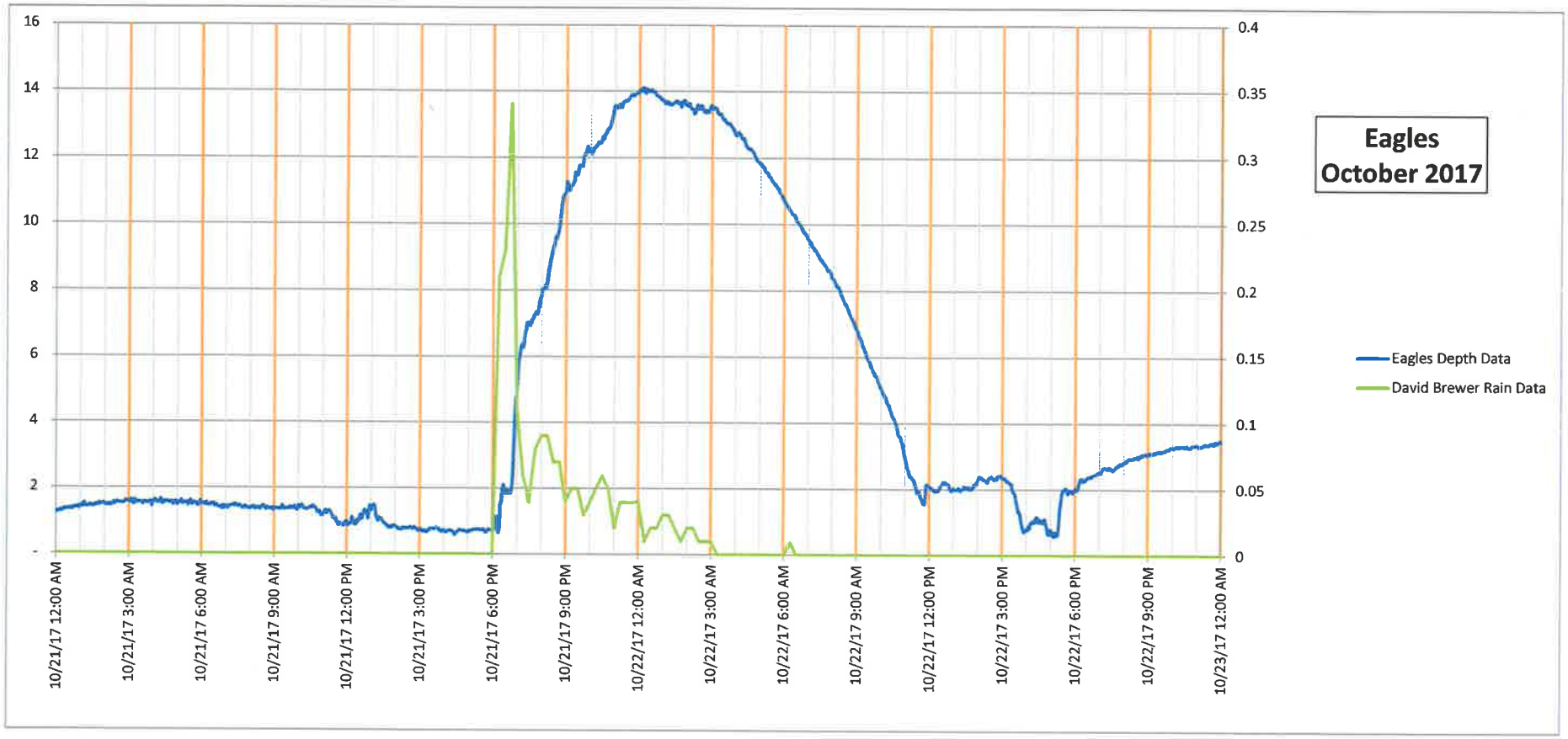
Eagles
October 2017
Eagles Depth Data
David Brewer Rain Data
16
14
12
10
8
6
4
2
-
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
10/21/17 12:00 AM
10/21/17 3:00 AM
10/21/17 6:00 AM
10/21/17 9:00 AM
10/21/17 12:00 PM
10/21/17 3:00 PM
10/21/17 6:00 PM
10/21/17 9:00 PM
10/22/17 12:00 AM
10/22/17 3:00 AM
10/22/17 6:00 AM
10/22/17 9:00 AM
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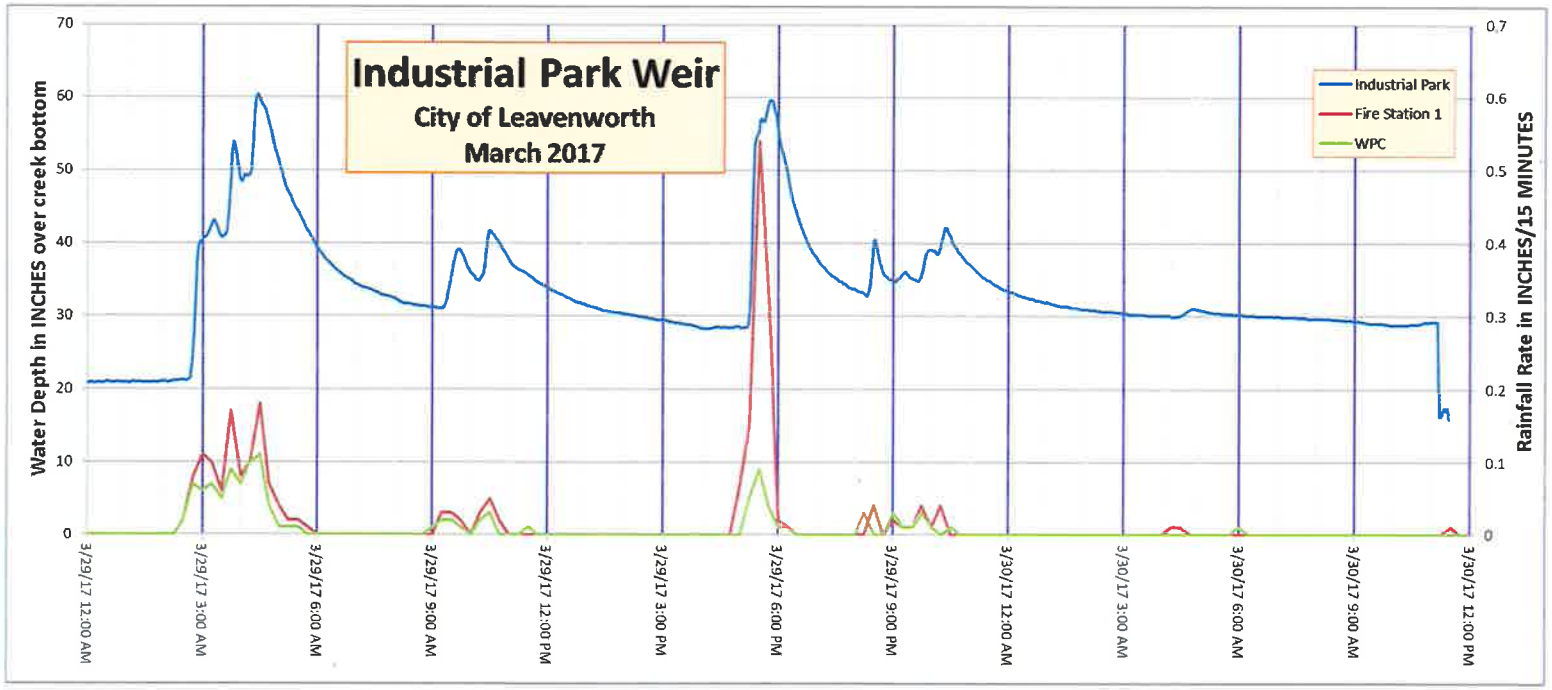
10/22/17 9:00 PM
10/23/17 12:00 AM


Industrial Park Weir
City of Leavenworth
March 2017
Water Depth in INCHES over creek bottom
Rainfall Rate in INCHES/15 MINUTES
Industrial Park
Fire Station 1
WPC
70
60
50
40
30
20
10
0
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3/29/17 12:00 AM
3/29/17 3:00 AM
3/29/17 6:00 AM
3/29/17 9:00 AM
3/29/17 12:00 PM
3/29/17 3:00 PM
3/29/17 6:00 PM
3/29/17 9:00 PM
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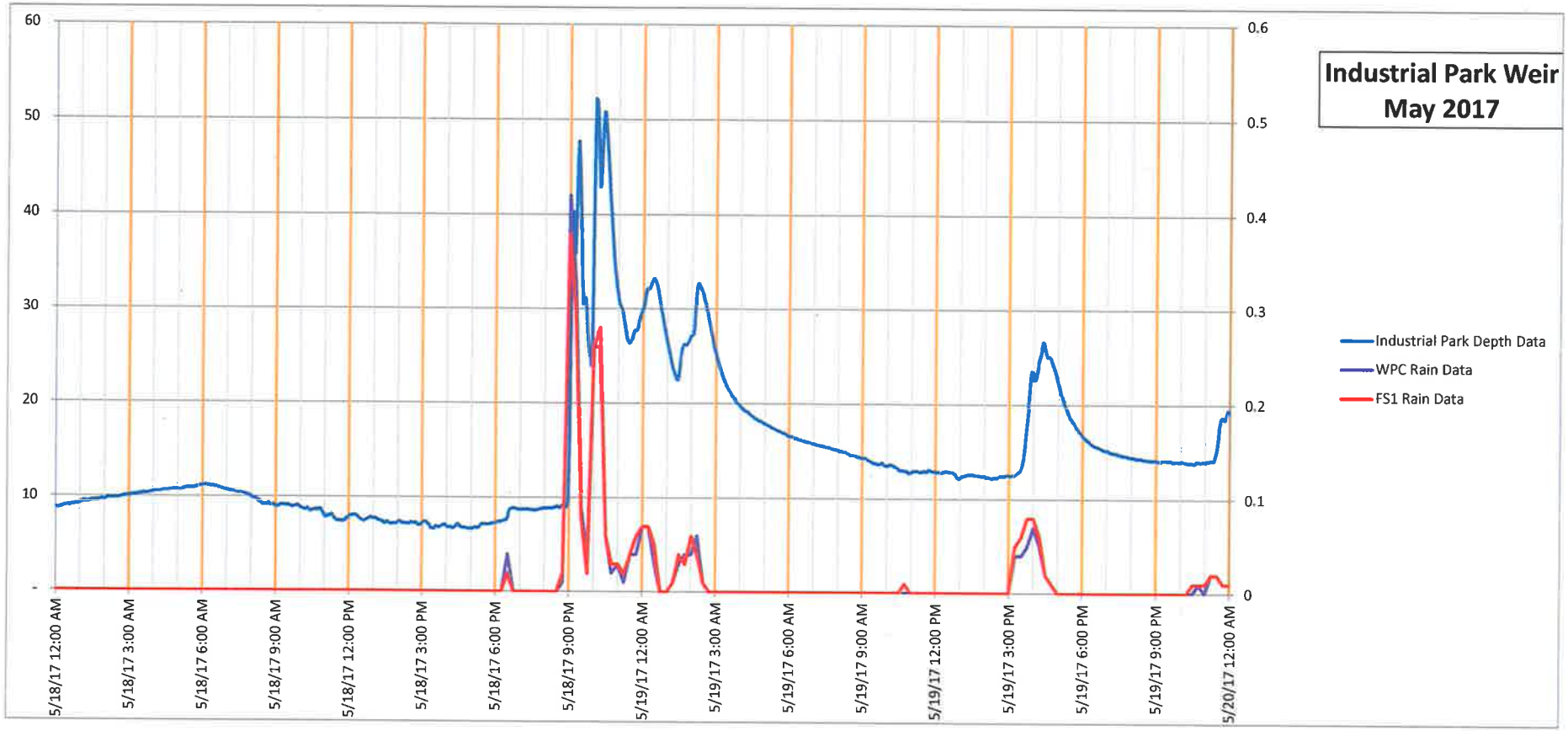
3/30/17 6:00 AM
3/30/17 9:00 AM
3/30/17 12:00 PM


Industrial Park Weir
May 2017
Industrial Park Depth Data
WPC Rain Data
FS1 Rain Data
60
50
40
30
20
10
-
0.6
0.5
0.4
0.3
0.2
0.1
0
5/18/17 12:00 AM
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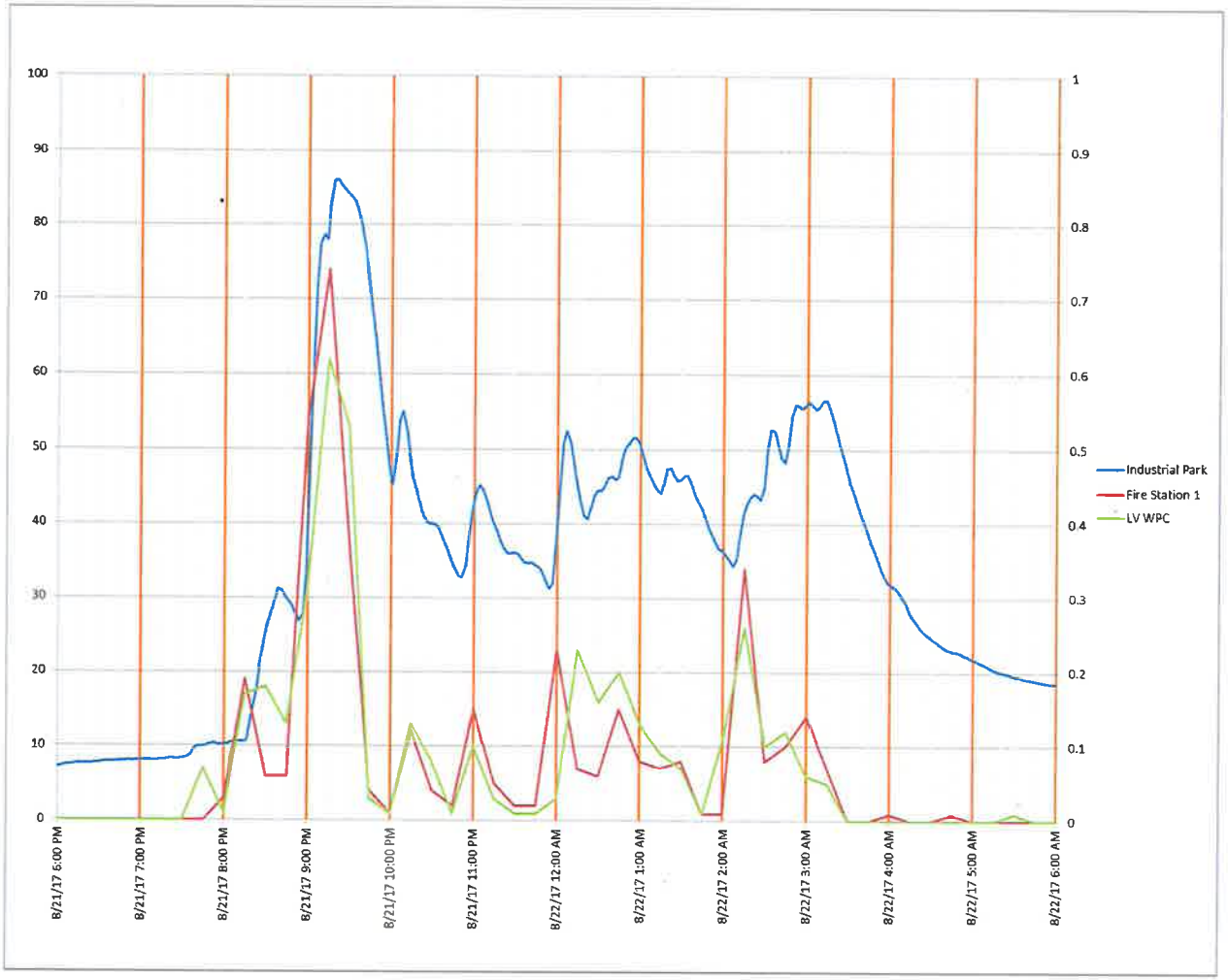
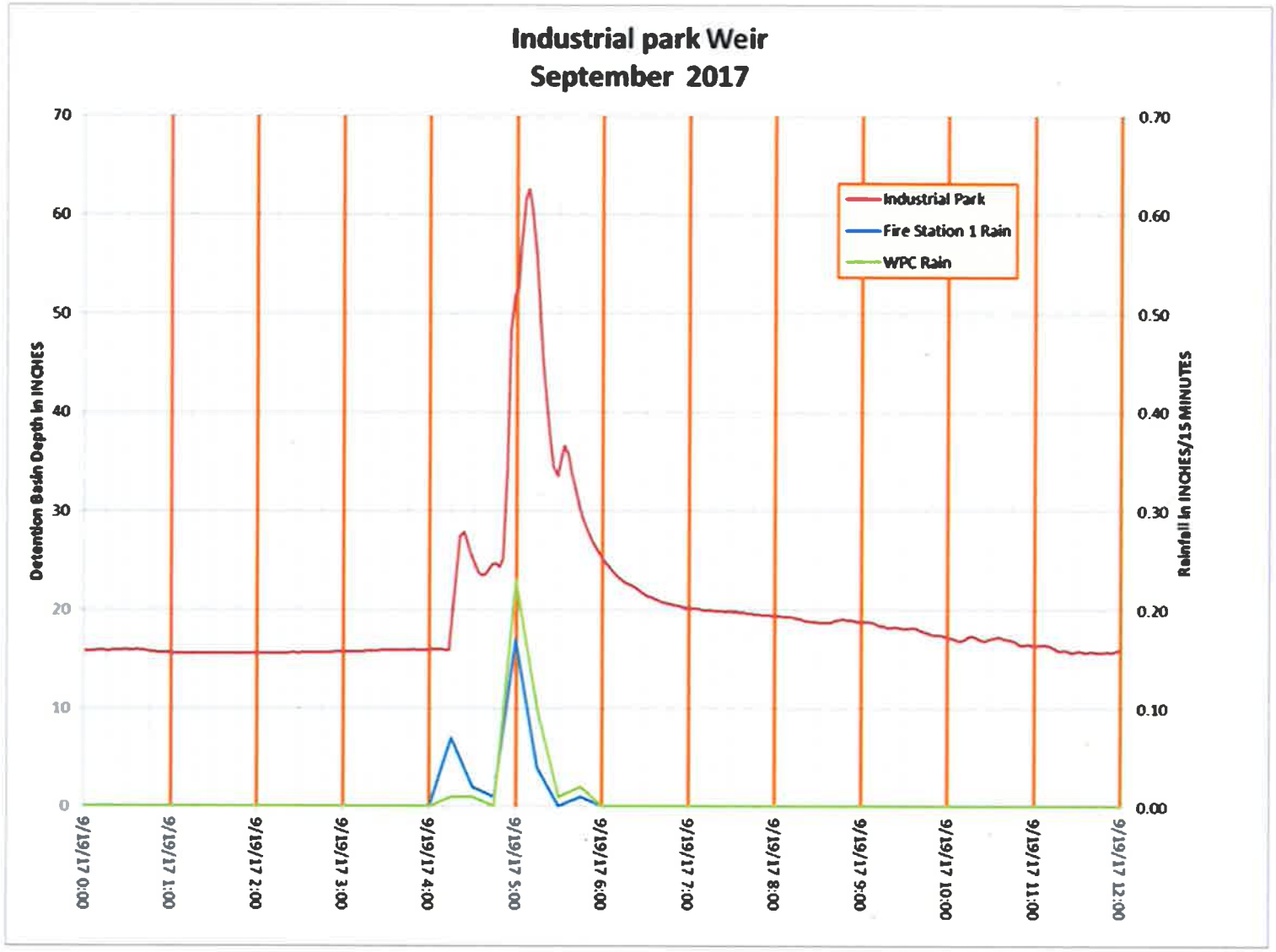
INDUSTRIAL PARK WEIR




Industrial park Weir
September 2017
Detention Basin Depth in INCHES
Rainfall in INCHES/15 MINUTES
Industrial Park
Fire Station 1 Rain
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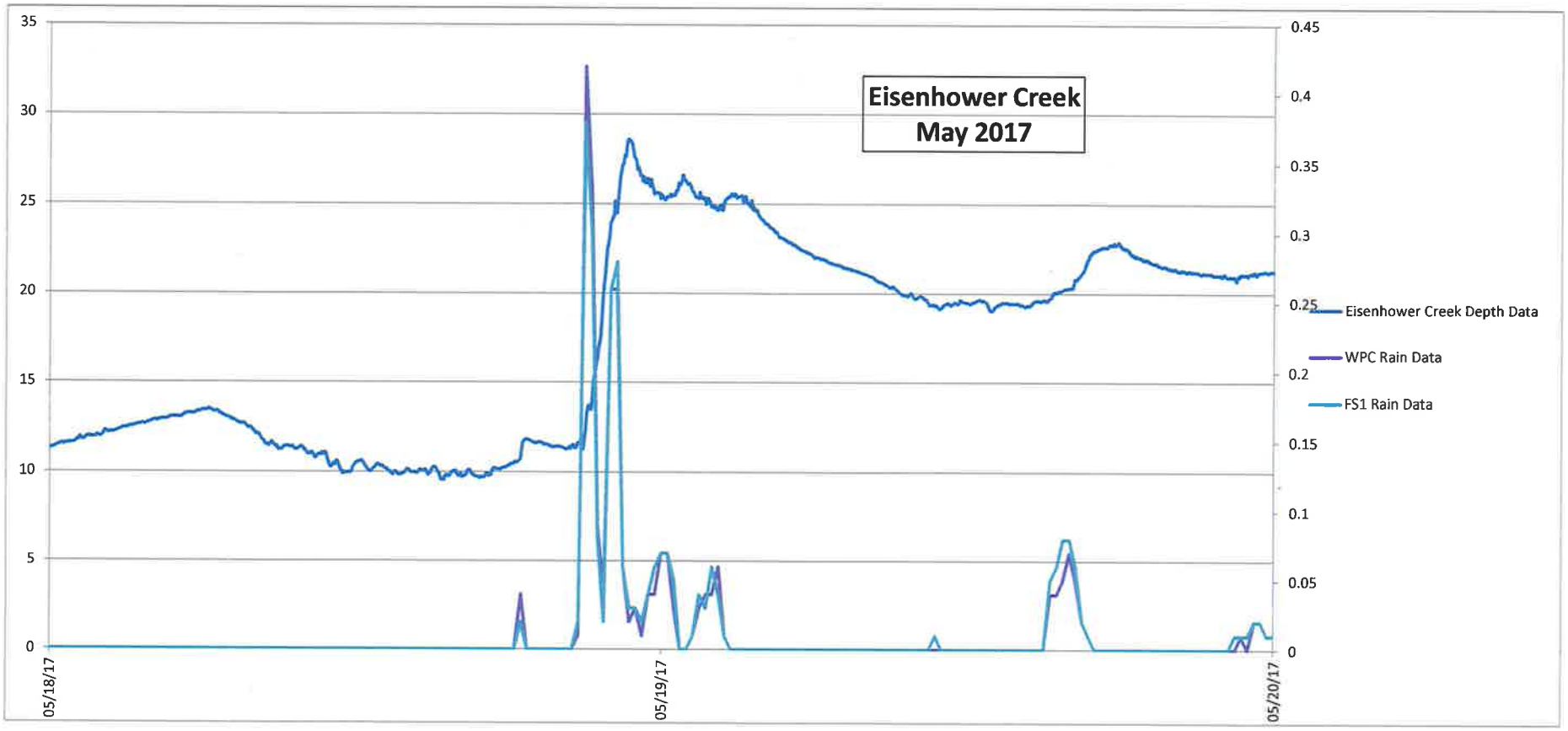
Eisenhower Creek
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Eisenhower Creek Depth Data
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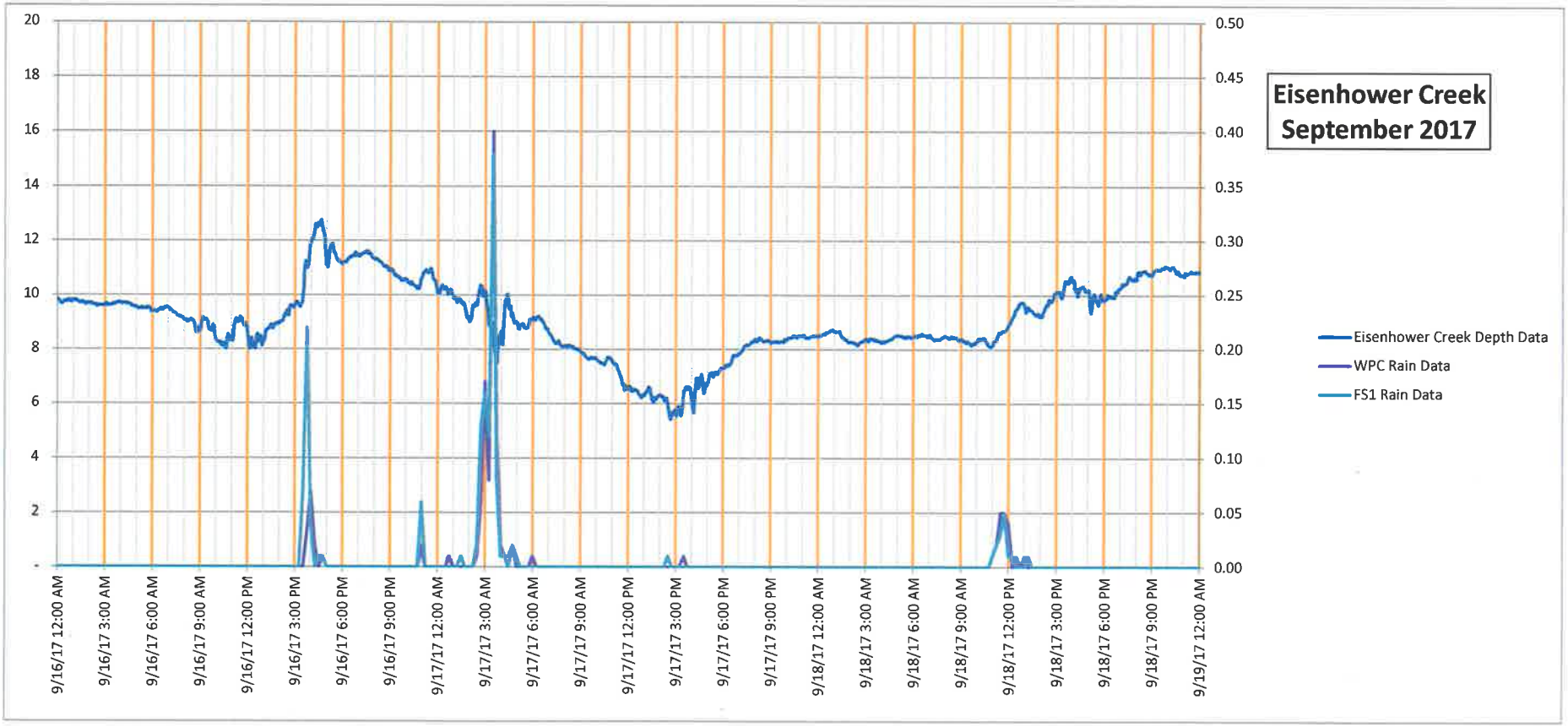
Eisenhower Creek
September 2017
Eisenhower Creek Depth Data
WPC Rain Data
FS1 Rain Data
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Appendix D

Selected Supporting Documentation for Stormwater Management Program (Stormwater Annual Report – Section E) (BMP Numbers 1-6)

BMP 1 – Public Education and Outreach & BMP 2 – Public Involvement and Participation

- Welcome to Leavenworth Trash Bag Brochure
- On-line Content at lvks.org
- Meeting Information Related to KDHE Annual Stormwater Report and Stormwater Management Plan – see the City Commission Policy Reports
- 2017 Citywide Clean Up
- Pages from "First City Newsletter"
- Spring Clean-Up Summary with Household Hazardous Waste (4,328 lbs.)
- Arbor Day Information
- Newsletter Article on How to Contact City with Concerns over Environmental Issues
- Countywide Annual Clean-Up Flyer and Household Hazardous Waste Materials Disposal
- Earth Day Participation

BMP 3 - Illicit Discharge Detection and Elimination

- Selected Examples of Training
- Summary of Grease Trap Program

BMP 4 – Construction Site Stormwater Runoff Control

- Summary of Engineering Inspection Efforts
- Representative Reports on Inspection of Construction Sites by Engineers
- Summary of Land Disturbance Permit (LDP) and Inspections by City Building Inspectors
- Letter Notifying Contractors of LDP Changes (January 23, 2017)
- Letter Notifying Contractors of Informative Meeting (April 28, 2017)

BMP 5 - Post-Construction Site Stormwater Management in New Development and Redevelopment

- Meeting with Owners – 5.4 Summary
- See Appendix C for BMP 5.6 and 5.7

BMP 6 – Municipal Pollution Prevention/Housekeeping

- Public Information Office News Release on Leaf Disposal
- Street Sweeping Summary
- Street Graph
- Leaf Collection Graph

City Commission Meetings – Policy Reports and Selected Attachments Related to BMP 1 & BMP 2

Welcome to the City of Leavenworth 1.5

- Bags only! Please have to the curb by 7am.
- Brush Site: Winter– Saturdays only, 8 am to 4 pm (last load at 3:50 pm)
- Recycling Center: Tue – Sat, 8:30 am to 12:30 pm
- Free First Saturdays each month.
- Website: www.lvks.org (Public Works/Solid Waste)
- Refuse and Recycling App: Enter your address for your weekly schedule, including holiday schedules.

Need more bags?

Available at the City Clerk's Office for $6/roll.

M-F, 8 am to 5 pm

1.5

BRUSH SITE
1803 S 2ND Street

- The City of Leavenworth operates a Brush Site for residents to drop off organic materials, accepting tree limbs, grass clippings, straw, hay, leaves and other organic materials-general yard waste. Trees must be free of dirt & less than 12" in diameter. .
- The Brush Site supplies free mulch, compost, wood chips & firewood to residents. To pick up mulch, wood chips & compost, residents need to arrive at the Brush Site in a vehicle that can support the weight of the mulch or compost & the vehicle must have sides. The staff will use a Bobcat to place the materials requested in your vehicle once a waiver is signed releasing the City of Leavenworth of any liability. Residents are welcome to load their vehicles by hand with their own tools.
- Leaves and grass clippings are always accepted free-of-charge. All other organic materials are accepted as shown below:

BRUSH SITE FEES

Car or Van	$2.00
Pickup Truck	$5.00
Flatbed/Single Axle Dump Truck	$15.00
Dual Axle Dump Truck/Chipper Box	$25.00
Trailers:	
1' to 8'	$5.00
8' to 16'	$10.00
Over 16'	$10.00
(plus $1.00 for each foot over 16')	

- On the 1st Saturday of each month, the Brush Site is free to City of Leavenworth residents. Commercial contractors still pay.
- OPEN: March-November Tuesday-Saturday 8:00 AM-4:00PM.
  Last load accepted at 3:50 PM
- CLOSED WEEKDAYS: December-February BUT OPEN On Saturdays 8:00AM—4:00PM
- OPEN regular hours two weeks following Christmas for free Christmas tree recycling

Recycling Center One Block West of Municipal Service Center

The City of Leavenworth operates a Recycling Center one block west of the Municipal Service Center, 790 Thornton, at the intersection of Lawrence and Halderman Streets.

E-Waste Recycling

The City of Leavenworth was the first city in Kansas to offer e-waste recycling. Citizens can drop off materials such as TV's, VCRs, DVD's, cell phones, computers and video players at the Recycling Center near the Municipal Service Center.

The Recycling Center is open Tuesday through Saturday 8:30 a.m. to 12:30 p.m.

YES...WE ARE OPEN

The Recycling Center is always free!

Commercially generated materials are not accepted at the Recycling Center, however the Leavenworth County Recycling Facility and Transfer Station located at 13523 Gilman Rd can be called at 727.2858.

SIGN UP NOW!

FOR TRASH DELAY NOTIFICATIONS VISIT OUR WEBSITE www.lvks.org

PROOF OF RESIDENCY:

1. VALID DRIVER'S LICENSE WITH LEAVENWORTH ADDRESS
2. FOR OUT-OF-STATE LICENSE PLEASE BRING CURRENT UTILITY BILL

Contractors working for City residents should have work order ready to show location of job. County residents and Commercial contractors working in the County, can dispose of brush at the Leavenworth County Transfer Station, 13523 Gilman Rd in Lansing.

The Recycle Center accepts the following items:

- ***Tin & aluminum cans***
- ***Car Batteries***
- ***Rechargeable Batteries*** (i.e. 9-volt batteries and batteries from hand tools)

**Battery sizes D, C, A, AA and AAA batteries are accepted at the Leavenworth County Transfer Station on Gilman Rd in Lansing.

- ***E-Waste***—electronic waste
- ***Used Automotive Oil***
- ***Plastics*– BUT NO:** motor oil bottles, pesticide/herbicide bottles, automotive product bottles (brake fluid, windshield washer fluid, etc), plastic bags, plastic toys, expanded #6 polystyrene materials (packing materials such as peanuts or packaging sheets/blocks), PVC pipe or plastic sheet materials.
- ***Glass***—clear, brown or green
- ***Paper products*** (cardboard, magazines, paper, etc.)

PLEASE -WE ASK THAT YOU REMOVE ALL LIDS AND NECK RINGS AND CLEAN AND RINSE ANY CANS, PLASTIC BOTTLES AND GLASS ITEMS.

Hazardous Waste, Paint and Propane tanks are accepted at the County Transfer Station. For additional information about the **County Transfer Station**, please call 913/727-2858 or 913/727-3000. The County Transfer Station's operational hours are Tues. – Fri. 8 am to 4 pm and Sat. 8 am to 2 pm.

CITY OF LEAVENWORTH

LEAVENWORTH

Solid Waste Services

Trash Services, Recycling Center, Brush Site, & Free Saturday Program

Pick up day will be:

Monday / Tuesday / Wednesday /Thursday

By City Ordinance Bags must be on curb by 7:00 A.M.

City of Leavenworth Solid Waste Services

Weekly Refuse Pick Up

- Residential pick-up by City crews is provided once each week, Monday—Thursday .
- Household trash cannot be left in the yard and must be disposed of properly, including auto parts, appliance, furniture, building materials, tires, cardboard, plastics, or any other items.
- Tree trimming and fallen limbs must be disposed of within a week.
- The charge for the trash service appears on your water bill each month. Please review your water bill to ensure you are paying for the appropriate number of units.
- ***Do not set out trash prior to 24 hours in advance***

BAGS ONLY

Please place refuse in disposable bags securely tied and set next to the curb by 7:00 a.m. on your collection day to ensure pick up on that day.

Trash cans are not allowed on the curb.

Trash bags will not be picked up out of trash cans. To throw away a container, **boldly** mark it **"to be thrown away"** and make sure it weighs less than 60 pounds.

GOT CRITTERS? Dogs, cats & wild animals might tear up the bags. You may spray bleach or ammonia on the INSIDE of the trash bags to stop them from doing so!!

BAGS: A package of 50 bags is furnished and delivered to your home twice a year (usually the last Saturday of March and September). If you should run out of bags between deliveries, you may use comparable bags from any store or you can purchase bags at the City Clerk's Office, City Hall, 100 N. 5th Street, at a cost of $6.00 per 50 bag package.

OBSERVED HOLIDAYS

City offices are closed and trash is sometimes delayed on the following holidays:

New Year's Day, President's Day, Martin Luther King Jr Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

If the holiday occurs Monday, Tuesday, Wednesday or Thursday, the normal trash collection day will move one day later. If on Friday or Saturday, there is no change.

BUNDLED ITEMS: Brush, tree limbs, wood and carpet will be collected with your refuse if cut into five foot lengths **AND** boxed, bagged, taped or tied into bundles of less than 60 pounds. Limbs should be no more than 12" in diameter.

TIRES: The City will collect up to five automobile tires per household per pick up day (maximum ten tires per year) when left at the curb.

BOXES: If you have hired a moving company, ask them if they will return to pick up the packing boxes. If not, you may put them out with your regular refuse-- please, we ask that you break down as many as possible and tie them into bundles or take to the Recycling Center.

NO CEMENT-BRICKS-HAZARDOUS MATERIALS- HOUSEHOLD CHEMICALS at the curb!!

Call the Leavenworth County Transfer Station at 913-727-2858 for disposal guidelines.

DISPOSAL OF SYRINGES, BROKEN GLASS OR OTHER SHARP OBJECTS:

*Replace the protective cover on syringes after use and place them or other sharp items in a sealed container and/or box - mark **"SHARP OBJECTS."** Place beside the bags at the curb for collection. You may call the Service Center the day prior to your collection & we will post a notice for the crew.*

BULK ITEM PICK UP ON REGULAR COLLECTION DAY

—The City of Leavenworth will pick up MOST FURNITURE ITEMS, TV's, mattresses and box springs with the regular trash.

SPECIAL BULK PICKUP BY APPOINTMENT—FRIDAYS ONLY—

LARGE METAL ITEMS such as appliances, metal desks and miscellaneous heavy metal items are picked up on Fridays. To schedule , please call the Service Center no later than 3:00 pm on Thursday for pick up on Friday.

FREE SATURDAY

On the FIRST Saturday of each month, the City of Leavenworth offers "FREE Saturdays." This event is an excellent opportunity for residents to utilize the City's refuse & recycling services. On FREE Saturdays, the Brush Site is open as usual from 8:00 am to 4:00 pm, but there is NO CHARGE for residents dumping brush. At the Recycling Center, dumpsters are provided for residents at the north entrance (Pennsylvania and Lawrence) to drop off large appliances, furniture, trash, construction debris and tires during normal Center hours. The Recycling Center is always free and is open from 8:30 am to 12:30 pm to drop off of recyclable items. Any time the FREE First Saturday falls on a holiday it will be held on the 2nd Saturday of that month.

THE FOLLOWING ARE IMPORTANT PHONE NUMBERS TO REMEMBER:

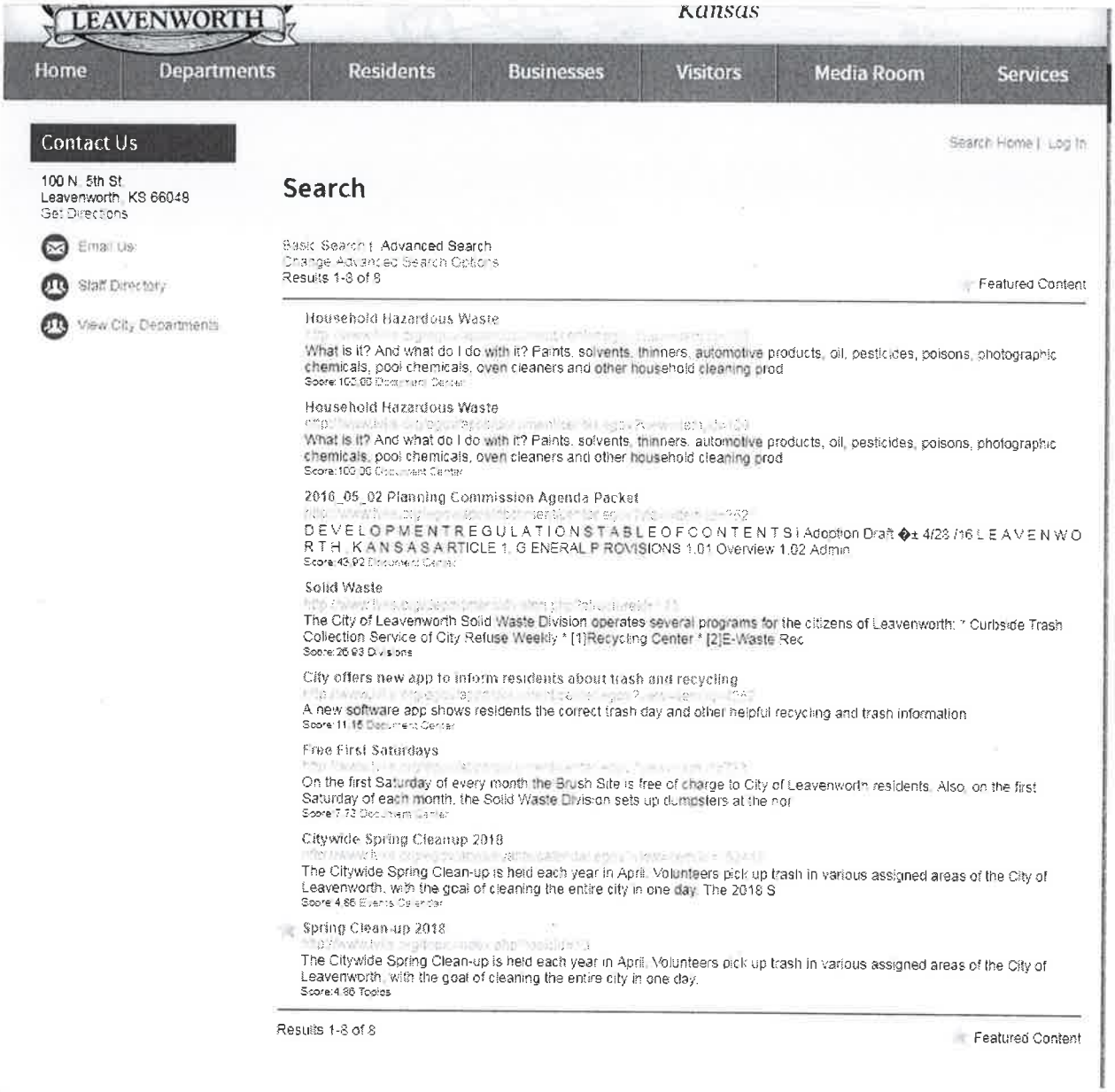
EMERGENCY POLICE/FIRE/EMERGENCY MEDICAL SERVICES	911
POLICE ADMINISTRATION	651-2260
CITY HALL	682-9201
FIRE ADMINISTRATION	682-3346
MUNICIPAL SERVICE CENTER (SOLID WASTE & STREET DEPTS)	*682-0650*
PARKS AND COMMUNITY ACTIVITIES	651-2203
ANIMAL CONTROL	682-0268
WATER POLLUTION CONTROL	682-1090

(For sewer line problems this number is answered 7 days a week, 24 hours a day)

For questions regarding your weekly trash pick up, call the Municipal Service Center at 913/682-0650

VISIT OUR WEBSITE
www.lvks.org
SIGN UP FOR TRASH DELAY NOTIFICATIONS

1.1, 1.5,



LEAVENWORTH Kansas

Home | Departments | Residents | Businesses | Visitors | Media Room | Services

Contact Us

100 N. 5th St.
Leavenworth, KS 66048
Get Directions

Email Us
Staff Directory
View City Departments

Search Home | Log In

Search

Basic Search | Advanced Search
Change Advanced Search Options
Results 1-8 of 8

Featured Content

Household Hazardous Waste

What is it? And what do I do with it? Paints, solvents, thinners, automotive products, oil, pesticides, poisons, photographic chemicals, pool chemicals, oven cleaners and other household cleaning prod
Score:103.68 Document Center

Household Hazardous Waste

What is it? And what do I do with it? Paints, solvents, thinners, automotive products, oil, pesticides, poisons, photographic chemicals, pool chemicals, oven cleaners and other household cleaning prod
Score:100.00 Document Center

2016_05_02 Planning Commission Agenda Packet

DEVELOPMENTREGULATIONSTABLEOFCONTENTS| Adoption Draft ♦ 4/28/16 LEAVENWORTH, KANSASARTICLE 1. GENERAL PROVISIONS 1.01 Overview 1.02 Admin
Score:43.92 Document Center

Solid Waste

The City of Leavenworth Solid Waste Division operates several programs for the citizens of Leavenworth: * Curbside Trash Collection Service of City Refuse Weekly * [1]Recycling Center * [2]E-Waste Rec
Score:26.93 Divisions

City offers new app to inform residents about trash and recycling

A new software app shows residents the correct trash day and other helpful recycling and trash information
Score:11.16 Document Center

Free First Saturdays

On the first Saturday of every month the Brush Site is free of charge to City of Leavenworth residents. Also, on the first Saturday of each month, the Solid Waste Division sets up dumpsters at the nor
Score:7.73 Document Center

Citywide Spring Cleanup 2018

The Citywide Spring Clean-up is held each year in April. Volunteers pick up trash in various assigned areas of the City of Leavenworth, with the goal of cleaning the entire city in one day. The 2018 S
Score:4.86 Events Calendar

Spring Clean-up 2018

The Citywide Spring Clean-up is held each year in April. Volunteers pick up trash in various assigned areas of the City of Leavenworth, with the goal of cleaning the entire city in one day.
Score:4.86 Tools

Results 1-8 of 8

Featured Content

SEARCH FOR

"HAZARDOUS WASTE"

2-14-2018

MBM

2.4

CITY OF LEAVENWORTH
100 N. 5th Street
Leavenworth, Kansas 66048
www.lvks.org

CITY COMMISSION REGULAR MEETING
COMMISSION CHAMBERS
TUESDAY, APRIL 25, 2017 7:00 P.M.

Welcome To Your City Commission Meeting - Please turn off all cell phones during the commission meeting.

Meetings are televised everyday on Channel 2 at noon, 7 p.m. and midnight

Call to Order – Pledge of Allegiance Followed by Silent Meditation

Proclamations:

1. Proclamations: (pg. 2)
   a. Leavenworth Drinking Water Week May 7-13, 2017
   b. National Small Business Week April 30-May 6, 2017
   c. Arbor Day April 28, 2017
   d. National Travel & Tourism Week May 7-13, 2017
   e. Leavenworth Spring Clean-up Day May 6, 2017

OLD BUSINESS:

Consideration of Previous Meeting Minutes:

2. Minutes from April 11, 2017 Regular Meeting **Action:** Motion (pg. 7)

NEW BUSINESS:

Citizen Participation: *(i.e. Items not listed on the agenda or receipt of petitions)*
General Items:

3. Consider Street and Parking Lot Closure-Biking Across Kansas Event **Action:** Motion (pg. 11)
4. Mayor's Appointment **Action:** Motion (pg. 17)
5. 2017-2018 City Commission Goals **Action:** Motion (pg. 18)

Bids, Contracts and Agreements:

6. Consider Contract for Performing Arts Center HVAC Upgrade Phase II **Action:** Motion (pg. 23)

Consent Agenda:

Claims for April 8, 2017 through April 21, 2017 in the amount of $621,913.13; Net amount for Pay #8 effective April 14, 2017 in the amount of $283,446.42 (No Fire & Police Pension) **Action:** Motion

Other Items:

Adjourn Action: Motion

Proclamation

Whereas, *in 1872, J. Sterling Morton proposed to the Nebraska Board of Agriculture that a special day be set aside for the planting of trees; and*

Whereas, *this holiday, called Arbor Day, was first observed with the planting of more than a million trees in Nebraska; and*

Whereas, *Arbor Day is now observed throughout the nation and the world; and*

Whereas, *trees can reduce the erosion of our precious topsoil by wind and water, cut heating and cooling costs, moderate the temperature, clean the air, produce life-giving oxygen, and provide habitat for wildlife; and*

Whereas, *trees are a renewable resource giving us paper, wood for our homes, fuel for our fires and countless other wood products; and*

Whereas, *trees in the City of Leavenworth, Kansas increase property values, enhance the economic vitality of business areas, and beautify our community; and*

Whereas, *trees, wherever they are planted, are a source of joy and spiritual renewal.*

Now, Therefore, I, Nancy D. Bauder, Mayor of the City of Leavenworth, Kansas do hereby proclaim April 28, 2017, as

"Arbor Day"

in the City of Leavenworth, and I urge all citizens to celebrate Arbor Day and to support efforts to protect our trees and woodlands, to plant trees to gladden the heart and promote the well-being of this and future generations.

Presented this twenty-fifth day of April in the year two thousand and seventeen.

_____

Nancy D. Bauder, Mayor

ATTEST:

_____

Carla K. Williamson, CMC, City Clerk

Proclamation

Whereas, *the Leavenworth City Commission is committed to working toward making the City of Leavenworth the most attractive, livable, healthy, and vibrant community possible; and*

Whereas, *your elected leaders realize it takes the good will and hard work of all citizens to achieve such lofty visions and are therefore encouraging all Leavenworth citizens to assume responsibility in maintaining a clean and attractive neighborhood environment; and*

Whereas, *the community lost a major supporter of keeping the City clean, Jerry Gerleman, in 2016. Jerry was an early supporter of the event and encouraged churches and organizations to get involved. Today more than 1,200 volunteers and City staff participate in the clean-up and realizing improvement in the physical appearance of our City; and*

Whereas, *such collaborative efforts can serve to foster a sense of community, invigorate a sense of pride about the community, serve as an opportunity for organizational and leadership skill development, and reinforce the virtue of personal responsibility, while resulting in a more attractive community with a higher quality of life; and*

Whereas, *the "Spring Clean-Up" kick-off will be held on Saturday, May 6, 2017 at 8:30 a.m. with a ceremony at Henry Leavenworth Elementary.*

Now, Therefore, Be It Resolved, *that the Leavenworth City Commission of the City of Leavenworth, Kansas hereby proclaims May 6, 2017 as:*

"Leavenworth Spring Clean-Up Day"

and urges all of our citizens to work toward protecting our environment and to join in efforts to preserve the attractiveness of our community.

In Witness Whereof, *I, Nancy D. Bauder, Mayor, have set my hand and caused the official Seal of the City of Leavenworth to be affixed this twenty-fifth day of April in the year of two thousand and seventeen.*

_____

Nancy D. Bauder, Mayor

ATTEST:

_____

Carla K. Williamson, CMC, City Clerk

Leavenworth Citywide

Spring Cleanup

April 7, 2018

Help the community pick up all the trash in the City of Leavenworth in one day. Here's how YOU can make a difference:

> **Teams of volunteers will sign up to pick up trash in assigned areas**
> **Sign up sheets due March 5 (see form)**

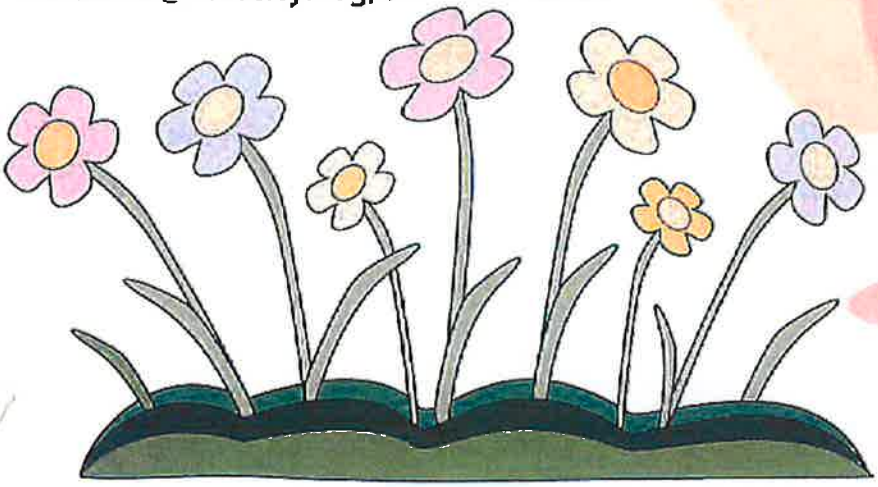
Paper Shredding sponsored by Citizens Savings and Loan. Open to all:

+ **10 a.m. to 12:30 p.m. at Citizens Savings and Loan, 5151 S. Fourth St.**
+ **1 p.m. to 2 p.m. at Citizens Savings and Loan, 312 S. Fifth St.**

For City of Leavenworth residents:

- **Off Pennsylvania Street and Lawrence Avenue:**
  Household Hazardous Waste disposal from 8 a.m. to noon
  Large item drop off 8 a.m. to 4 p.m.
- **Recycling Center 790 Thornton open 8 a.m. to 4 p.m.**
- **Brush Site, 1803 S. 2nd St., open 8 a.m. to 3:50 p.m.**

Contact Melissa Bower, Public Information Officer, City of Leavenworth
melissab@firstcity.org, 913-680-2610



Citizens
SAVINGS & LOAN ASSOC., FSB

FIRST CITY OF KANSAS • 1854
LEAVENWORTH

2.4

Claudia Larkin

From: Melissa Bower
Sent: Monday, January 23, 2017 10:38 AM
To: City Employees
Subject: THIS WEEK: Jan. 23, 2017

What Employees Should Know About the City of Leavenworth THIS WEEK

- The Leavenworth Fire Department is again offering HeartSafe classes for free. HeartSafe is a public health initiative that teaches hands-only CPR training. The intent is to help people improve the odds of surviving a cardiac arrest or heart attack. It will not count toward CPR certification. Free classes will take place at the Fire Station Headquarters Feb. 11 and April 22. The classes are 9 a.m. and 10 a.m. both days. Call 913-682-3346 by 4 p.m. the day before the class to reserve a spot. Members of the public are welcome to participate.
- The Leavenworth County Emergency Management office is doing 2017 Severe Weather Spotter Training 7 p.m. February 28 at Warren Middle School. Volunteer spotters are used during weather emergencies to help identify tornadoes and other weather threats to the community.
- The Leavenworth Citywide Spring Cleanup will be held Saturday, May 6. Each year more than 1,000 volunteers pick up trash throughout the City, many of them children. We will also have free services available for residents, such as free bulk drop-off and brush site, and the Recycling Center will be open. The Recycling Center is always free. Additionally, Citizens Savings and Loan is again sponsoring free paper shredding at their bank locations in Leavenworth. More information here: https://www.lvks.org/topic/index.php?topicid=15&structureid=43

Melissa Bower, Public Information Officer
City of Leavenworth
100 N. Fifth St.
Leavenworth, KS 66048
913-680-2610
mbower@firstcity.org

LEAVENWORTH
TIMES

Spring Cleanup scheduled for Saturday

By John Richmeier / jrichmeier@leavenworthtimes.com

Posted May 5, 2017 at 8:15 AM

More than 1,000 volunteers will be working this Saturday to clean up Leavenworth.

More than 1,000 volunteers will be working this Saturday to clean up Leavenworth.

The city will be hosting its annual Spring Cleanup.

"We want to get as much trash as possible off of city streets," said Melissa Bower, public information officer for the city.

The Citywide Spring Cleanup will kick off with a ceremony at 8:30 a.m. at Henry Leavenworth Elementary School, 1925 Vilas St.

After the kickoff ceremony, volunteers will disperse to various areas of the city. They will be working in groups, picking up trash along public right-of-ways and other public areas.

Some of the volunteer groups will include children, and Bower asked that motorists be careful as they drive through the city Saturday.

Bower said students at Xavier Catholic School plan to get an early start on the cleanup effort. They plan to pick up trash around their school today.

Bower said people who have not signed up for the cleanup can still volunteer by showing up to Saturday's kickoff event.

"We're never going to turn away people who want to pick up trash," she said.

Various services also will be available Saturday to help Leavenworth residents to recycle and dispose of items.

The city's recycling center, located at Lawrence Avenue and Halderman Road, will be open from 8 a.m. to 4 p.m.

Residents also can dispose of items such as tires, furniture, metals, mattresses, appliances and household hazardous waste from 8 a.m. to noon behind the Municipal Service Center at Pennsylvania and Lawrence avenues.

The city's brush site, 1803 S. Second St., will be open from 8 a.m. to 3:50 p.m. for people to dispose of yard waste.

"It's free to Leavenworth residents," Bower said.

Citizens Saving and Loan will be sponsoring free document shredding. The service will be available from 10 a.m. to 12:45 p.m. at the Citizens Saving and Loan at 5151 S. Fourth St. and from 1-2 p.m. at the Citizens Savings and Loan at 312 S. Fifth St.

Twitter: _____

2.4

Leavenworth City Household Hazardous Waste Clean-up

Saturday May 6, 2017

Household Hazardous Waste Participation by materials

Latex Paint – 3,840 lbs.

Oil Base paint – 80 lbs.

Flammable Liquids – 320 lbs.

Poisons – 40 lbs.

Corrosives – 0- lbs.

Aerosols – 120 cans

Antifreeze – 48 lbs.

Car battery - 1

Customers serviced

32

Club to donate trees to students

By MARK ROUNTREE / mrountree@leavenworthtimes.com
Posted Apr 14, 2017 at 9:28 AM

Sixth-grade students will have a chance to make the area a little more green as a result of an annual project by a local club.

The Leavenworth Garden and Civic Club will once again donate trees and bushes to sixth-grade students.

"We hope to instill an interest and respect for nature," said Margaret McNamee, the committee chair for the local Arbor Day project.

Arbor Day is celebrated on the fourth Friday of April in Kansas, which is April 28.

Sixth-grade students at Warren Middle School, Lansing Middle School, Xavier Catholic School and St. Paul Lutheran School will receive the trees.

McNamee said the club began delivering free trees to students in 1948, and has done so each year since. She estimates the club has given away more than 20,000 trees over the years.

McNamee said the club has purchased 475 seedlings to be donated to the students.

The species of trees and/or bushes include oak, pawpaw, buttonbush and golden currant.

Club representatives will deliver the seedlings to the schools April 27.

Each of the seedlings come with a description of the tree and planting instructions.

Students can plant the trees wherever they want.

McNamee said many teachers will include Arbor Day and tree planting into their lesson plans.

McNamee said the club welcomes volunteers to help pack the trees for shipment to the schools.

For more information, contact McNamee at 913-991-7660.

Twitter: _____

Lansing City Council focuses on sal

LEAVENWORTH TIMES .co

FRIDAY, APRIL 14, 2017 Since 1857 • Oldest daily newspaper in Kansas •

FAST FACT: On this date in 2003 – The Human Genome Project was completed with 99 percent of the human genome sequel

INSIDE TODAY

Symposium

School staff presents at Kansas Can and DoI **See A2.**

SMILE OF THE DAY

Dale Cleland is smiling because he enjoyed playing the bagpipes at the World War I ceremony Tuesday at Fort Leavenworth National Cemetery.

Nominate someone for Smile of the Day: Send us a photo of someone in the community and tell why they are smiling to news@leavenworthtimes.com or mail to 422 Seneca St., Leavenworth, KS, 66048.

Club to donate trees to

Leavenworth Garden and Civic Club to give shrubbery to sixth-graders

By MARK ROUNTREE
mrountree@leavenworthtimes.com

Sixth-grade students will have a chance to make the area a little more green as a result of an annual project by a local club.

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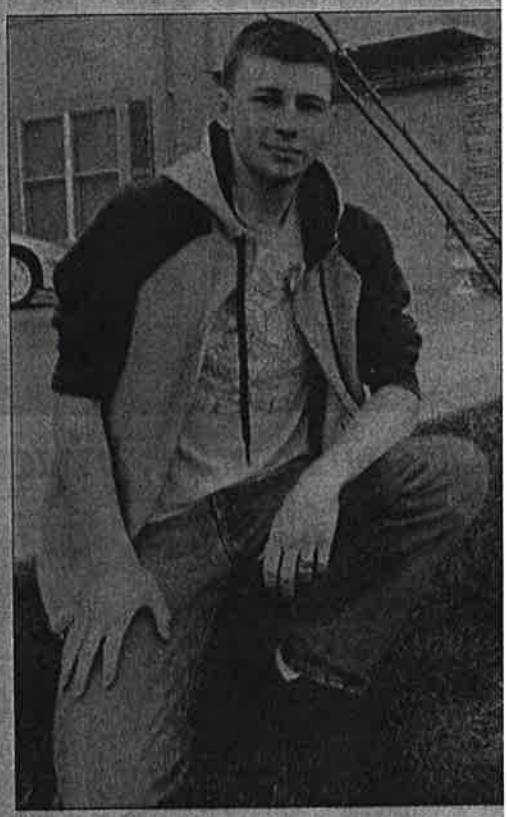
See CLUB, A3



Ray Clark, a senior at Leavenworth High S when he was a sixth-grade student at Wes by the Leavenworth Garden and Civic Clu

FUNDRAISING BREAKFAST

Leavenworth High in the Park schedu

Quick

to a height of 25 feet. The dead tree, believed to be the nat[illegible] oldest white oak, cu[illegible]ntly stands at over 100 feet tall. The Basking Ridge Presbyterian Church, founded in 1717, is 300 years younger than the 600-year-old tree on its property. The younger tree has been planted a short walk from its father. The ancient tree was present for many episodes of American history. English evangelists James Davenport and George Whitefield preached to more than 3,000 people beneath the tree in 1740, and George Washington picnicked under it in early colonial America. French troops allied with American revolutionaries marched past the tree en route to the Battle of Yorktown.

Jon Klippel, a church board member, told NJ.com that they are unsure what they will do with the wood from the 600-year-old tree

8.95 percent. Of nine different entities in the area, that is third lowest. Shawnee, for example has a 9.6 percent tax; Leavenworth has 9.5 percent. The lowest in the area is Basehor with 8.5 percent. Those interested can go to this website to see the rate for any city in Kansas: www.ksrevenue.org/pdf/pub17000417.pdf, Vandall noted. He also pointed

Gene Kirby and Andi Pawlowski, noted that the project will go forward, so it's simply a choice of how to fund it — sales tax or property taxes. As Vandall noted, the sales tax would be paid by everyone who came to town and purchased something — say from Lansing restaurants or a car dealership. Homeowners who live in Lansing would see an increased

poised to make improvements there.

[illegible]mail ballots will go out [illegible] all registered Lansing voters probably in early May, Vandall said. They must come back to the courthouse by noon on May 16. County Clerk Janet Klasinski has said that turnout for a mail ballot has typically been higher than comparable elections held at polling places.

CLUB

Continued from A1

trees over the years.

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firetruck which was built by the founders of the fire department when it opened. While that may sound like a lot of trucks and equipment for a relatively small township, the township does not owe any money for those vehicles.

In addition to fire department personnel, the station on 155th Street is also home to two fire and emergency medical technicians who attend to car wrecks, falls and other calls. A full-time fire administrator was hired in 2015 and Chuck Magaha serves as fire chief. There are 30 firefighters on staff, including 12 paid positions and 18 community volunteers. The boundaries for the township are east to the Leavenworth

[illegible] out of the station to help citizens of the c[illegible]y and township. The a[illegible]ulance crew has two or three staff members at the station at all times.

Firefighter Ken Magaha has lived in Basehor since 1971 and his dad was part of the department, so things felt very natural for him to follow his dad's footsteps. Magaha joined Fairmount Township in 1978.

"It's a family outside of our real family," he said. "We spend more time with them than we do our family. That's why we call it a brotherhood."

Beth Kornegay is a freelance writer covering news and events in the city of Basehor. If you have a story idea, email her at gabi_kansas@yahoo.com

Transformation is a spiritual process

A teacher's work is never done. If you don't believe me,

ments of persecution, betrayal, testing, arrest, torture and death?

"See? You need me."
"See? I love you."
So we don't get a pass.

form of God, did not regard equality with God as something to be ex-

Colette Kiszka

From: Melissa Bower
Sent: Monday, June 05, 2017 8:08 AM
To: Chuck Staples; Colette Kiszka
Cc: Mike McDonald
Subject: SMP: WPC truck at LHS
Attachments: 0160_001.pdf

Very nice note we got from the Leavenworth High School Interact club regarding the City's participation in Earth Day, when we took our camera truck from Water Pollution Control to demonstrate at the school.

Colette, please include this in your file for the Stormwater Management Plan report.

Melissa Bower, Public Information Officer
City of Leavenworth, Kansas
913-680-2610
melissab@firstcity.org
www.lvks.org
https://www.facebook.com/CityofLeavenworthKS/
https://twitter.com/LeavenworthKS

iew videos of the Leavenworth City Commission at https://www.youtube.com/user/leavenworthkansas

Ms. Bower, thank you so much for your help and time to coordinate the water table truck for our Earth Day Celebration event!

– Jane Song

Thank you so much! - Willow Baker

Thanks for everything

We really appreciate it

~ Veronica M

Please thank your staff – They (two gentlemen) did a great job demonstrating to kids!

Thank you so much! - Grace Lee -

Danke Schön!
- Ash

Thank You!!

Thank you from Lits Interact Club!

Thank you so much for everything ~ Victoria Moson

BULLETIN BOARD

Lions provide screening

The Leavenworth Lions Club completed its vision screening efforts throughout Leavenworth County for the 2016-2017 academic year. The Lions screened the four USD 453 elementary schools, Xavier Catholic School, St. Paul Lutheran Elementary School, the Head Start program, Jack and Jill Preschool, Tonganoxie Elementary School and Genesis Christian School.

Lion volunteers screened 2,835 students. The volunteers used the club's Welch Allyn SPOT digital vision screener which identified 327 students warranting follow-up by an eye care professional.

Each day, one or two Lion volunteers conducted the vision screenings, freeing up the school nurses to concentrate on performing annual hearing screenings as well as providing the crisis management that typically makes up their days. Research has shown that the first years of a child's life are critical in the development of good vision. The earlier that vision problems are detected, the less the impact on the child's academic and behavioral success. Earlier detection often increases the success rate for treatment/correction.

Additional pre-school programs that would like to be included in the Fall 2017 Lions Club Vision Screening Program can contact Dave Davis at 913-775-1971. Anyone interested in learning more

MARK ROUNTREE/LEAVENWORTH TIMES

The University of Saint Mary hosted its annual hooding ceremony Tuesday at Annunciation Chapel. Sister Diane Steele, president of the University of Saint Mary, congratulates a student during the hooding ceremony. ABOVE RIGHT: Students wait for their turn to participate in the hooding ceremony.

Commission explores options for funding stormwater projects

By JOHN RICHMEIER
jrichmeier@leavenworthtimes.com

When they met Tuesday, Leavenworth city commissioners discussed millions of dollars worth of needed repairs to the city's stormwater system as well as possible funding sources.

Public Works Director Mike McDonald and Deputy Public Works Director Mike Hooper reviewed options for generating additional money for stormwater maintenance including the establishment of fees or a separate mill levy for property taxes.

The discussion oc-

See COMMISSION, A3

In other business

The Leavenworth City Commission:

- Reviewed information related to long-term financial planning for the city.

want to head out to the Lansing DAZE Festival.

The city of Lansing will be hosting the festival Friday night and Saturday in conjunction with the 15th annual Brew, Blues, & Bar-B-Q Cook-Off. Both events will take place at Kenneth W. Bernard Community Park, 15650 Gilman Road.

> **"It's really just a community event."**
> — Tim Dossey

Activities will take place from 6-11 p.m. Friday and from 10 a.m. to 4 p.m. Saturday. General admission is free.

"It's really just a community event," said Tim

See LANSING, A5

Water resources: Is there a crisis looming?

Quick Q5 questions for **Jeff Oden**

Jeff Oden is an environmental science professor at Johnson County Community College and former environmental consultant who worked with Kansas Department of Health and Environment, Missouri Department of Natural Resources and Environmental Protection Agency. In this Q5 he talks about our endangered water resources.

1 Jeff, with your experience as an environmental science professor and environment consultant to the KDHE, MDNR and EPA, what is your opinion on the recent Kansas House budget committee's decision to reject a proposal to spend the amount Kansas is legally obligated to spend for water proj-

See WATER, A3

BUSINESS SPOTLIGHT: TIFFANY ANDREWS INSURANCE AGENCY

The Leavenworth-Lansing Area Chamber of Com-

Agency: State Farm
OWNER: Tiffany An-

122

p.m. Monday through Friday, available evenings and

service bank
BEST THING ABOUT

OMMISSION

ntinued from A1

rred during a study
ssion, and commis-
ners took no action.
City Manager Paul
amer said the issue
ll be discussed during
ture meetings.
McDonald said more
an $40 million worth
work has been identi-
d for maintaining the
y's current stormwa-
system.
Hooper later placed
e cost of repair and re-
acement projects at
0.8 million.
Hooper said city offi-
ls will not be able to
e care of these proj-
s in the next year or
en the next 20 years.
According to McDon-
l, the city's stormwa-
system includes
out 102 miles of un-
rground pipes and
en di , as well as
out 3,000 drainage
uctures.
McDonald and Hoop-
said various materials
ve been used for the
rmwater system dur-
the course of the
's history.
The oldest city of
nsas has the oldest
rastructure of
nsas, and it shows,"
Donald said.
But age is not the only
blem. McDonald
d the choice of mate-
s used also has re-
ed in problems.
Kramer said corrugat-
metal that was used
stormwater projects
he 1980s has rusted.
Currently, city officials
e about $325,000 to
nd each year for
rmwater projects.
Mayor Pro-Tem Mark
ising ked how
ch money will be
ded over the next 10
rs.
McDonald said the
probably would
d to budget at least
additional $1 million
year.

"You can probably do meaningful work with that," he said.

McDonald and Hooper reviewed several options for generating more money.

McDonald said the simplest way may be to add a fee that would be included on people's water bills.

"It's a modest fee," he said.

Hooper used an example of charging $5 per month for each residential property, $50 per month for each commercial property and $250 per month for each industrial property.

Using this fee scale for water customers would raise about $1 million per year, Hooper said.

Another idea was charging a fee to property owners based on the zoning classification of their properties.

Using a fee scale of $5 per month for properties zoned for residential use, $50 per month for commercial properties and $250 per month for industrial properties, this would raise about $2 million per month, Hooper said. Another possible option would be a property tax, or mill levy, dedicated to stormwater projects.

Commissioner Larry Dedeke said he would prefer charging a set fee to people who have water meters.

Commissioner Lisa Weakley said this would apply to even properties that are exempt from property taxes.

Preisinger suggested creating a fee based on the amount of water customers use.

"I would like to have more community input into this," Mayor Nancy Bauder said.

Kramer said the issue may be brought back to commissioners in a month or so.

Twitter: @LVT-NewsJohnR

WATER

Continued from A1

ects?

I believe with the decision to reject spending the matching state funds there are several projects that would benefit the citizens and state that will likely go unfunded. These projects are largely centered around conservation, water reuse, better management techniques and research of drought resistant crops. This could also jeopardize U.S. Army Corps of Engineers' projects.

2 Why have municipal water utilities and other groups that pay fees into the Water Plan Fund refused to agree to a fee increase? Why has this issue gone from a state priority to increase funding for water preservation to a refusal to pay current fees?

Municipalities have continued to meet their end of this obligation, mostly because it is mandated and they do not want to be in violation of state mandates. They have continued to collect the monies and send them appropriately to the state. Like many issues in Kansas, currently the budget has been a hot-button issue due to the fact there are simply declining revenues. They are struggling to meet the current budget woes and not focusing on the long-term impacts. This was an issue that Gov. Sam Brownback pushed in his agenda in 2015 and 2016, but they have not been able to agree on an equitable funding solution. The main reason for this is the water needs vary greatly from region to region in Kansas.

3 Some committee members who opposed the amendment due to the budget crisis have said they understand the importance of it and some are predicting a huge crisis that is 'barreling down fast.' What are some of the projects that the State Water Plan program has successfully initiated over the years and what are some of the crucial projects that need to be addressed without delay?

There have been several streambank and riparian restorations in central and southern Kansas. There was an aqueduct study to evaluate diverting the Missouri River waters to Western Kansas to replace the depleted water from the Ogallala Aquifer. There have also been lake dredging projects and studies. The Kansas Water Office also has been working on the Public Water Supply System GIS Mapping Assistance Program, this will benefit municipalities statewide. It will help programs like Kansas One Call.

4 With about 80 percent of the water being consumed by Kansas each year being pumped out of the ground for irrigation, with no fees applied, are private and industrial consumers who pay monthly water bills getting a fair deal? Why is it important for the state to ensure that essential water projects are a priority for funding?

When it comes to water and water resources getting a fair deal this is an interesting question. I always side on preserving water and funding water projects.

Are the inequitable monies collected for funding an issue? Yes. The region-to-region need for water and water projects is vastly different from suburban Johnson, Wyandotte, and Leavenworth counties to rural western Kansas. There needs to probably be a funding formula that is equitable for all. This was the original vision with the municipalities putting in monies and the state matching funds. Without the states matching funds, we are just left with the money being contributed from municipal water consumption.

5 Do you think there is a crisis looming if funding isn't achieved for our endangered water resources? With so many worrying political issues in the news, why is it vital that people understand that safe, clean water should be at the top of the list. What can people do to express their concerns and who should they contact to voice their opinions?

There is most certainly a crisis looming, anytime you begin to lag behind in infrastructure and research you get passed by. I do not think we are headed toward a Flint, Michigan crisis with drinking water. However, Kansas has unique water distribution and water quality issues. The Ogallala Aquifer that for so long has been a source of water for the livelihood of Kansas Agriculture is reaching record low levels.

It is imperative that the citizens of Kansas know where their money is going and exactly what they are getting out of their contributions. There are several groups currently watching and waiting to see how elected official respond.

The best way to voice your opinion is to reach out to your local water municipalities, and your state elected officials. Make your voice heard. This starts with Gov. Brownback who stated in 2015, "Our focus is on preserving a resource that is vital to our state and our future."

— Rimsie McConiga

LEAVENWORTH
TIMES

Meeting to provide information about stormwater repairs

By John Richmeier / jrichmeier@leavenworthtimes.com

Posted Sep 23, 2017 at 9:01 AM

Leavenworth city officials have been looking at ways to pay for repairs to the city's stormwater system. And they are seeking input from the public.

Leavenworth city officials have been looking at ways to pay for repairs to the city's stormwater system. And they are seeking input from the public.

The first of two public information meetings on the topic is scheduled for 5:30-7 p.m. Thursday at the Riverfront Community Center, 123 S. Esplanade St.

"We're going to have some display boards set up where you can look at the type of problems we're seeing," Leavenworth Public Works Director Mike McDonald.

City officials have identified more than $83 million in needed maintenance to the stormwater system, which carries rainwater away from buildings and roads. The water is channeled into creeks and watershed areas.

City commissioners have discussed two options for collecting fees to fund stormwater repair projects. One option would be to include a monthly fee on water bills. City sewer and trash fees already are included on water bills.

The other option for collecting funds for stormwater repairs would be including lump sum fees as part of annual property tax statements.

During a July meeting, commissioners were presented with a table with possible ranges of fees. Fees for single family residents ranged from $3 per month, or $36 per year, under some proposals to $4 per month, or $48 per year. The table showed a fee of $250 per month, or $3,000 per year, for the largest industrial properties in the city.

McDonald said Thursday's meeting will have no formal presentation. City staff members will be hand to answer questions.

Melissa Bower, public information officer for the city, said people attending the meeting will have the opportunity to provide written feedback.

A second public information meeting is planned for 5:30-7 p.m. Oct. 26 at Leavenworth Fire Station No. 1, 3600 S. 20th St.

Twitter:

LEAVENWORTH
TIMES

Commissioners discuss stormwater fee amounts

By John Richmeier / jrichmeier@leavenworthtimes.com
Posted Dec 6, 2017 at 8:55 AM

For months, Leavenworth city commissioners have been talking about implementing a fee to help pay for repairs to the city's stormwater system. And on Tuesday, they discussed possible dollar figures for the fee.

For months, Leavenworth city commissioners have been talking about implementing a fee to help pay for repairs to the city's stormwater system. And on Tuesday, they discussed possible dollar figures for the fee.

But no decision was made regarding fee amounts during what was a study session. Mayor Nancy Bauder suggested fee structures that were presented during the meeting needed more work.

City officials say they have identified more than $83 million in needed maintenance to the stormwater system, which carries rainwater away from buildings and roads. The water is channeled into creeks and watershed areas.

Commissioners decided last month that the fee, once it is set, will appear on annual property tax statements.

City Manager Paul Kramer said Tuesday city staff members had come up with five options for fees.

Each option contained a range of fee amounts based on the classification and size of properties.

The option with the lowest fees called for a $60 annual fee for single-family properties. Under this option, property owners would be charged $60 for each unit of apartment complexes. The fee for commercial properties would range from $250 to $1,300 depending on the size of the buildings on the properties. The fee for industrial properties would range from $1,500 to $4,500 depending on the size of buildings. The fees from this option would generate an estimated $1.2 million.

The remaining four options would generate between $1.4 million and $4.1 million each year, according to information provided to commissioners.

Under these remaining options, the fees for single-family residential units range from $75 to $270 per year. The fee for the commercial properties that are more than 10,000 square feet ranges from $1,375 to $3,100 under these four options. The fee for industrial properties that are more than 9,000 square feet ranges from $6,000 to $9,000.

Greg Kaaz, president of Leavenworth Excavating and Equipment Co., addressed commissioners during the study session.

Kaaz acknowledged that repairs are needed to the city's stormwater system.

"I think the work needs to be done," he said. "It's bad."

But Kaaz said he had a lot of questions about the fee proposals.

He questioned what he considered an inequity between fees for commercial and industrial properties. He noted, in some cases, the proposed fee for industrial properties is six times more than the fee for commercial properties.

He noted that a new industrial park is being developed in Leavenworth. He said businesses in this park will be facing high fees.

He said Leavenworth will be competing with other cities to attract businesses.

"We're going to have to tweak these categories some," Deputy Public Works Director Mike Hooper said.

Setting the fee for single-family residences at $75 instead of $60 would raise more than $100,000 in additional revenue for the program. Kramer said this could help ease the burden for the owners of industrial properties.

He asked if a $75 per year fee for residential properties is tenable.

"I think so," Bauder said.

Kramer asked if commissioners were wanting to focus on options that would generate between $1.2 million and $1.4 million per year.

Bauder said this is her preference.

City officials have said nonprofit organizations that are exempt from property taxes will still be charged the fee.

Kaaz raised the question of whether locations such as the Eisenhower VA Medical Center and Fort Leavenworth, which lie within the Leavenworth city limits, will be charged the fee.

Kramer later said city staff will look at the categories for the fee options as well as allocations within the categories. He said the issue will not be brought back to the commission until January.

Twitter:

LEAVENWORTH
TIMES

2.1

Commissioners discuss formulas for stormwater fees

By John Richmeier / jrichmeier@leavenworthtimes.com

Posted Jun 7, 2017 at 8:19 AM

When they met Tuesday, Leavenworth city commissioners discussed ways to pay for repairs to the city's stormwater infrastructure.

When they met Tuesday, Leavenworth city commissioners discussed ways to pay for repairs to the city's stormwater infrastructure.

Last month, commissioners discussed needed repairs to the stormwater system ranging in estimated cost from $40 million to $70 million.

During Tuesday's meeting, commissioners were presented with three ways of calculating fees to raise money for the maintenance.

Commissioners appeared to prefer the simplest of the three proposals. But no action was taken during what was a study session.

City Manager Paul Kramer said Tuesday's discussion was the second of a handful of study sessions that will take place before anything is put in place.

Under the simplest proposal, the city would charge a flat fee for each residential property and another set fee for each non-residential property.

An example that was included in an information packet prepared for the meeting listed a $3 monthly fee for residential properties, or $36 annually, and a $5.50 monthly fee for non-residential properties, or $66 annually. However, Kramer said this was just an example and the numbers are meaningless.

The second proposal used a modifier called an equivalent residential unit for multi-family, commercial and industrial properties. The ERU would be a unit rate based on the surface area for an average single home.

A third proposal would charge different amounts for single family residences based on size and use the ERU modifier to calculate the fee for commercial and industrial properties.

"It gets complex," Kramer said.

Commissioner Larry Dedeke said the city should stick with the simplest way of calculating the fee.

Dedeke said there is no way he would vote for the third formula.

If the city implemented the third option, additional staff would be needed to manage it, Mayor Pro-Tem Mark Preisinger said.

Preisinger said he would like to see city staff bring back a simple formula.

Public Works Director Mike McDonald said the fee can be charged through property tax statements or as part of monthly water bills.

He said there may be some properties that do not have water service such as storage businesses or vacant houses.

City staff have looked at how other municipalities collect stormwater fees. Deputy Public Works Director Mike Hooper said all but one of the other cities that staff looked at collect fees from tax exempt properties.

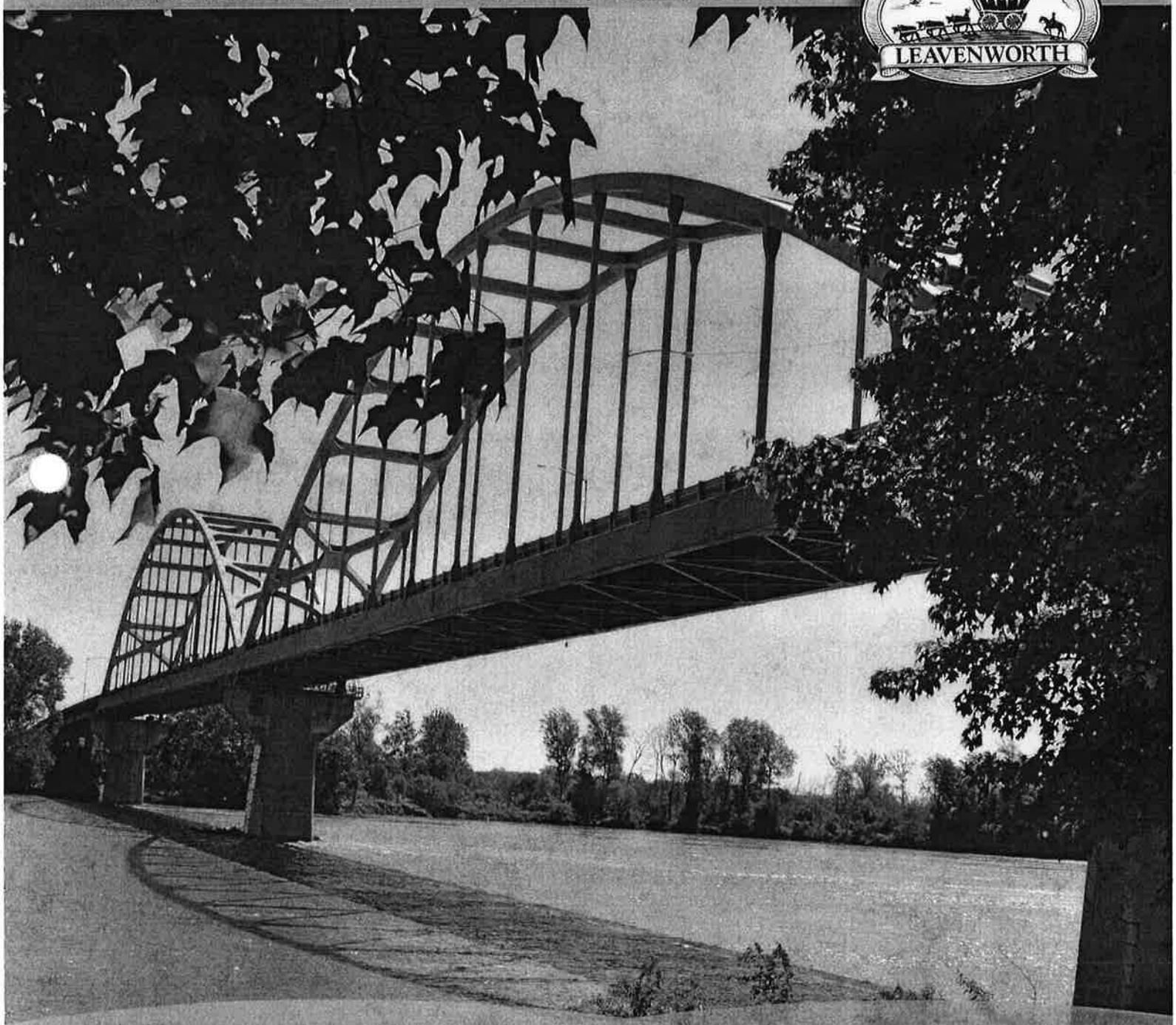
Preisinger said the stormwater fee would not be a tax.

Twitter:

Leavenworth Parks and Recreation Activity Guide

First City Connection

INFORMATION FOR BUSINESSES AND RESIDENTS | APRIL - AUGUST 2017



Inside:

City Manager's Office
City Hall, 100 N. Fifth St.
913-680-2604

City Clerk's Office
City Hall, 100 N. Fifth St.
913-682-9201

Convention and Visitors Bureau
City Hall, 100 N. Fifth St.
913-758-2948

Economic Development
City Hall, 100 N. Fifth St.
913-680-2602

Fire Department
(Admin. calls only)
3600 S. 20th Street
913-682-3346
For Burn Permits:
913-758-2980

Human Resources
City Hall, 100 N. Fifth St.
913-680-2637

Inspections
City Hall, 100 N. Fifth St.
913-684-0378

Leavenworth Public Library
417 Spruce St.
913-682-5666

Municipal Court
Justice Center, 601 S. Third
913-758-2900

Parks and Recreation
Riverfront Community Center
123 S. Esplanade St.
913-651-2203 (admin)
913-651-2132 (front desk)

Planning/
Community Development
City Hall, 100 N. Fifth St.
913-680-2626

Police (Admin calls only)
Justice Center, 601 S. Third
913-651-2260

Public Housing
Planters II, 200 Shawnee St.
913-682-2200

Public Information Office
City Hall, 100 N. Fifth St.
913-680-2610

Public Works/Engineering
City Hall, 100 N. Fifth St.
913-684-0375

Service Center/Streets/Trash
790 Thornton St.
913-682-0650

Sewer Emergencies (24 Hours)
913-682-1090

Water Pollution Control
1800 S Second St.
913-682-1090

Leavenworth City Commission

Nancy Bauder
Mayor 913-675-7166
nbauder@firstcity.org

Mark Preisinger
Mayor Pro-Tem
913-775-2822
mpreisinger
@firstcity.org

Larry Dedeke
Commissioner
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ldedeke@aol.com

Charles Raney
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charleyraney
@rocketmail.com

Lisa Weakley
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913-682-6297
lweakley@firstcity.org

Volunteers prepare for Leavenworth Citywide Spring Cleanup May 6

Each spring, more than 1,200 volunteers help remove trash throughout Leavenworth city streets in one day.

This year's event takes place Saturday, May 6 with a kick-off 8:30 a.m. at Henry Leavenworth Elementary School.

Volunteers who sign up by April 14 will receive a free T-shirt and one-day pass to Wollman Aquatic Center.

The City will assign volunteer groups to a grid on the City map and provide gloves and trash bags for volunteers. Forms are available on the City's website, www.lvks.org.

For those who don't wish to volunteer, there are many other services provided by the City to help residents properly dispose of items like scrap metal, furniture, recyclables and household hazardous waste.

Recycle

Visit the City's recycling center, Lawrence and Halderman Road (one block west of Leavenworth High School) open 8 a.m. to 4 p.m. on Saturday, May 6, to recycle:

- Car Batteries & Rechargeable Batteries
- Electronics
- Plastics
- Glass — clear, brown or green
- Paper products (cardboard, magazines, paper, etc.)

Shred

Bring bags of unwanted paper for free paper shredding offered by Citizens Savings & Loan and the City of Leavenworth. Shredding will take place 10 a.m. to 12:45 p.m. Saturday, May 6 at Citizens Savings & Loan, 5151 S. Fourth Street and 1 - 2 p.m. at Citizens Savings and.Loan, 312 S. Fifth St.

Household

Residents may dispose of items such as tires, furniture, metals, mattresses, appliances from 8 a.m. to 4 p.m. Items considered household hazardous waste such as household cleaners, varnish, paint, paint thinners, pesticides, pool chemicals and automotive products may be dropped off 8 a.m. to noon. Site is behind the Municipal Service Center, Pennsylvania and Lawrence Avenues.

Yard Waste

The Brush Site, 1803 S. 2nd St. will be available 8 a.m. to 3:50 p.m. on Saturday, May 6 for residents to drop off organic materials. The Brush Site accepts tree limbs, grass clippings, straw, hay, leaves and other organic materials from general yard waste. Compost and mulch are available for residents.

Project awarded to replace Second Street Bridge

The City awarded an approximately $1.5 million contract to replace a section of Second Street that includes a bridge over the Three Mile Creek trail in 2017. The bridge will be completely torn out and replaced. This will require closure of Second Street south of the Stove Factory Lofts and a portion of the Three Mile Creek trail that goes underneath the bridge will also be closed. Several utilities will also be relocated.

The bridge showed significant signs of deterioration as early as 2000. After looking at a possible repair project, engineers determined that a total replacement would be necessary. In 2014 after a design plan, Commissioners decided that replacing the arch structure under the bridge was far too costly. A cheaper design was requested.

In 2016 and 2017, the project was redesigned and let out for bid. Seven companies attended a pre-bid meeting but only one submitted a bid, LG Barcus and Sons, for $1,499,477.60. Commissioners approved the bid on Feb. 14.

Work is expected to take several months. Crews plan to begin in spring and complete by fall, but construction is weather dependent.

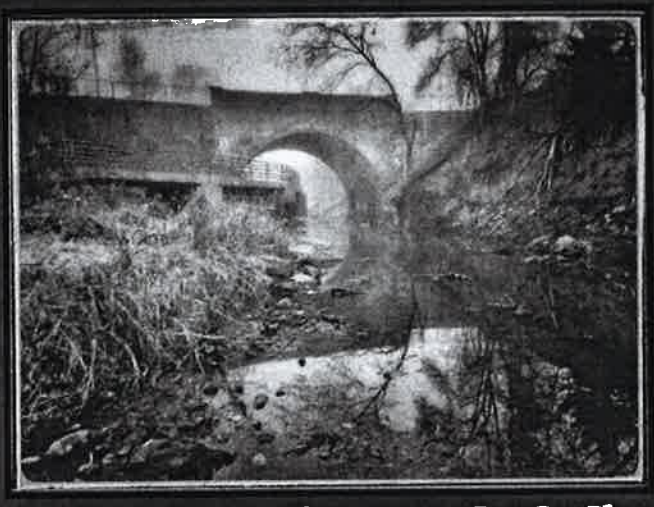


Photo courtesy First City Photo

City meets with drainage basin owners to share best maintenance practices

A detention basin is a land feature used to manage water quantity. Basins are an excavated area that can be adjacent to parking lots, neighborhoods and tributary streams to protect against flooding. In some cases, basins also prevent downstream erosion by storing water for a limited period of time.

If the basin is on private property, it is the property owner's or home owners association`s responsibility to provide regular maintenance.

Some maintenance recommendations provided to the City by the Kansas Department of Health and Environment and the Environmental Protection Agency are listed below.

1) Trash and debris clogged drain pipes create abnormal flooding of the basin and can cause damage to surrounding property. Remove trash and debris from the outflow pipes, avoid dumping yard clippings, and clean drain screens.

2) Erosion can be caused by rodent holes, the wrong type of vegetation, or a lack of vegetation. Remove rodents, repair erosion and plant grass or other appropriate plantings.

3) Tree roots can destroy drain tubes and make maintenance difficult. Remove existing trees and keep them from coming back by mowing or annual cutting.

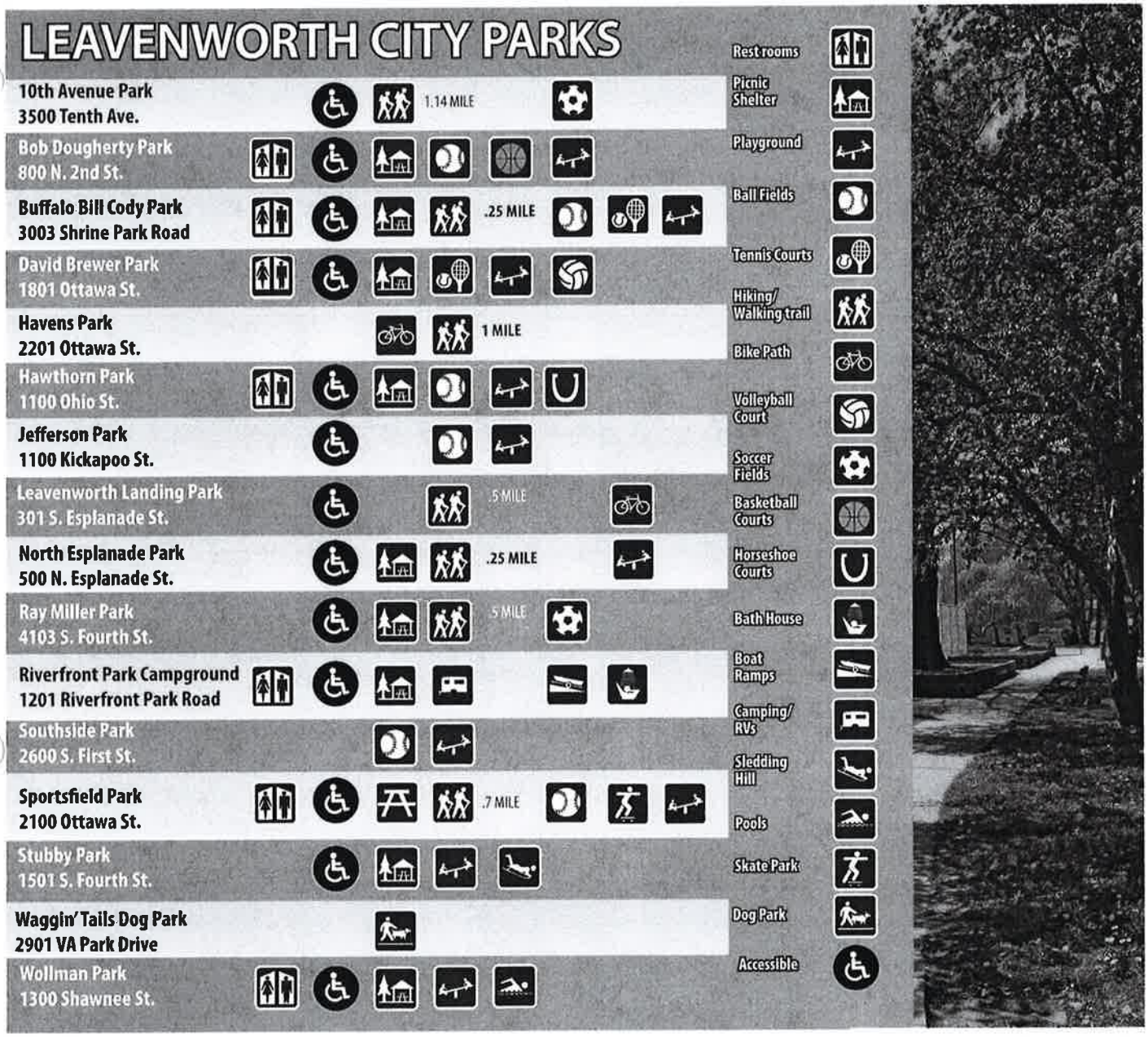
4) Large stones known as "rip rap" keep trenches from forming and helps catch pollutants. Replace missing rocks, remove sediment around rocks and repair erosion.

5) Some basins have concrete flow lines to keep trenches from forming. Repair erosion where trenches have formed around the concrete flow line, make sure water is flowing on the flow line and repair concrete if it is deteriorating.

These are just some of the basic maintenance guidelines. If property owners aren't sure what needs to be done with a particular basin, City staff are happy to assist.

City engineering staff met with property owners in February to discuss maintenance of detention basins.

KDHE and the EPA also require the City to conduct regular evaluation of the community's detention basins. On a regular basis, the City staff will inspect the basins and file reports with the federal, and state officials. Proper maintenance of these detention basins helps to reduce or eliminate pollutants into the groundwater, prevent soil erosion and can prevent property damage. City records can show whether a detention basin is located on your property. If you have any questions, inspection or maintenance reports of the basins, please contact Barry Smith, engineering technician, at bsmith@firstcity.org or 913-684-0375.



Riverfront Park Campground
This scenic park next to the Missouri River offers several amenities. The campground offers basic and electric camping pads, tent camping, a bath house with four private units, a boat ramp, picnic shelter and dump station. $15 per night. (Note: This park is adjacent to active train tracks.) Open April 1-October 31. For information, contact the Park Manager at (913) 290-0034 or campgroundmanager@firstcity.org.

Adopt-A-Park Program
Make a difference in the Leavenworth community by adopting a Leavenworth city park or other landscaped public area. Participants can choose from a variety of tasks: reporting vandalism and maintenance problems, picking up litter, painting, weeding or gardening. Donations also may be made for park improvements. City staff will provide guidance and some materials for projects. Call the Leavenworth Parks and Recreation Department at (913) 651-2203.

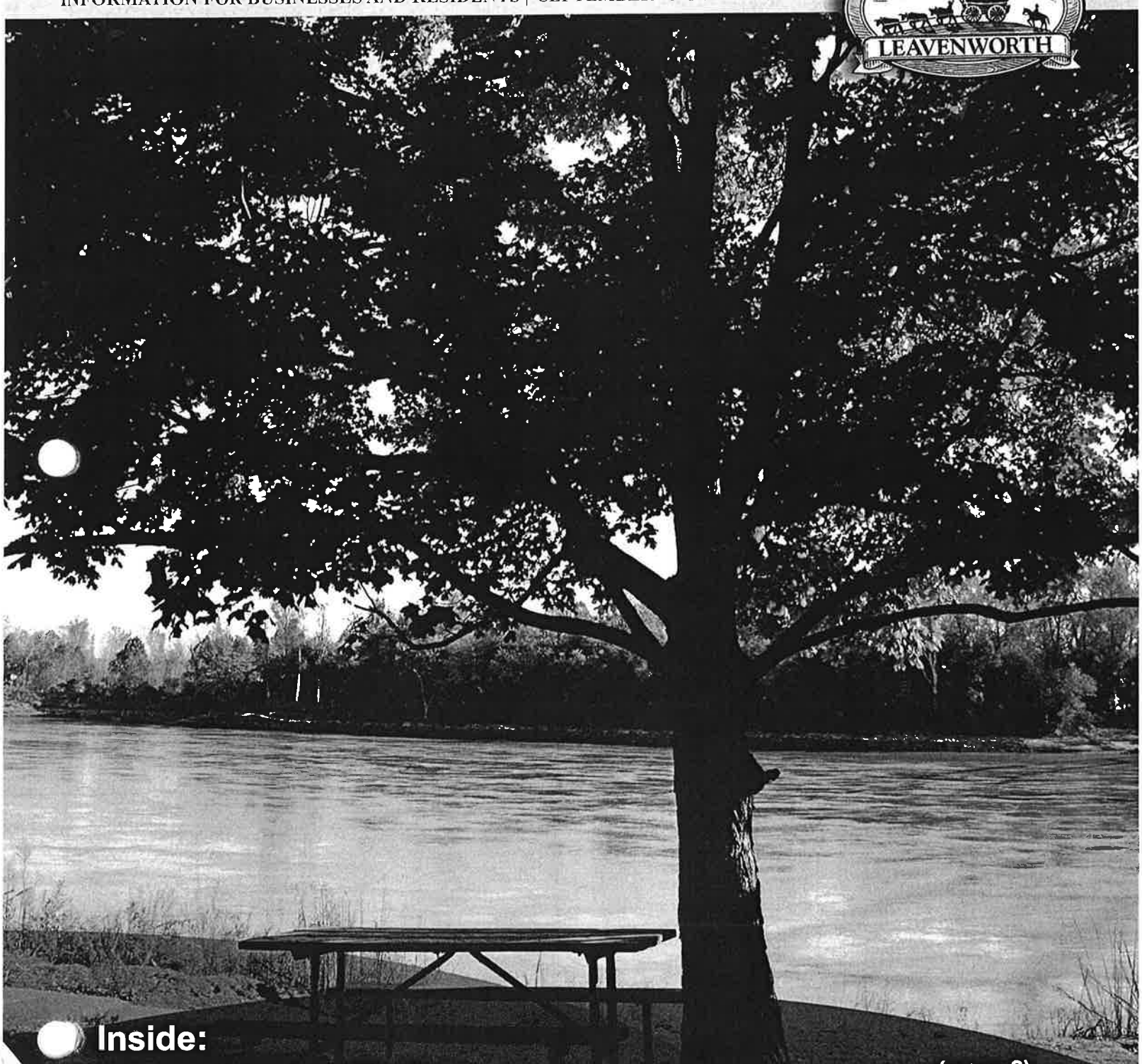
Legacy Tree Program
Commemorate a special person or event with a living legacy. For a $200 fee, a tree will be planted and a plaque erected at the planting site. For an additional $100, you may request a 5" x 5" aluminum plaque. Request forms are available at the Parks and Recreation Office, (913) 651-2203.

Memorial Bench Program
Another way to honor a special person or group is through the purchase of a memorial bench with an attached plaque in Leavenworth Landing Park or at the Waggin' Tails Dog Park. The Parks and Recreation Department will install the bench. Down payment required to order. Call the Leavenworth Parks and Recreation Department at (913) 651-2203.

Leavenworth Parks and Recreation Activity Guide

First City Connection

INFORMATION FOR BUSINESSES AND RESIDENTS | SEPTEMBER - NOVEMBER 2017



Inside:

Resident Information

Trash bag delivery Sept. 30

Fall cleanup means bagging leaves. The City has trash bags delivered directly to residents twice a year, in spring and fall. A roll of trash bags contains 50 heavy-duty bags. Additional bags may be purchased at the City Clerk's Office in, Leavenworth City Hall, 100 N. 5th St., for $6 per roll.

Three options available for residents to dispose of leaves

The City of Leavenworth will offer curbside leaf pick-up service to residents from Metropolitan Avenue to Spruce Street. This program is weather-dependent and begins Nov. 1. Residents from Eisenhower Street to Spruce Street who are not on the collection route can bag leaves for regular refuse collection or take leaves to the Brush Site at 1803 S. Second St. for free disposal.

Tips to placing leaves for pick-up:

- Residents should place the leaves as close to the street as possible, without covering the sidewalk. The piles must be free of materials such as branches. Please do not rake leaves into the street. Please do not block mailboxes.
- To provide the leaf collection equipment better access to the streets, residents are encouraged to rake leaves away from vehicles.
- Leaves placed in plastic bags or boxes will only be collected on trash day. Residents choosing to bag leaves need to have the bags on the curb no more than 24 hours before their scheduled refuse pick-up day. The bags of leaves will then be picked up with their trash by the Refuse workers as part of their normal weekly service.
- Can I take leaves somewhere other than the curbside program? Disposal of leaves and grass is available to residents free of charge at the Brush site, 1803 S. 2nd St. The site is open Tuesday through Saturday, 8:30 a.m. to 3:45 p.m. until the last day of November. Clippings at the brush site are used for making compost. The compost is available to residents free of charge at the brush site.

Federally-funded program assists Leavenworth homeowners with repairs

The City of Leavenworth has funds available to assist qualified low- to moderate-income homeowners through the Community Development Block Grant, administered by the U.S. Department of Housing and Urban Development (HUD). The Home Repair Program helps homeowners with basic repairs. The applicant must be the homeowner and occupant and fall below a specific income set forth by HUD

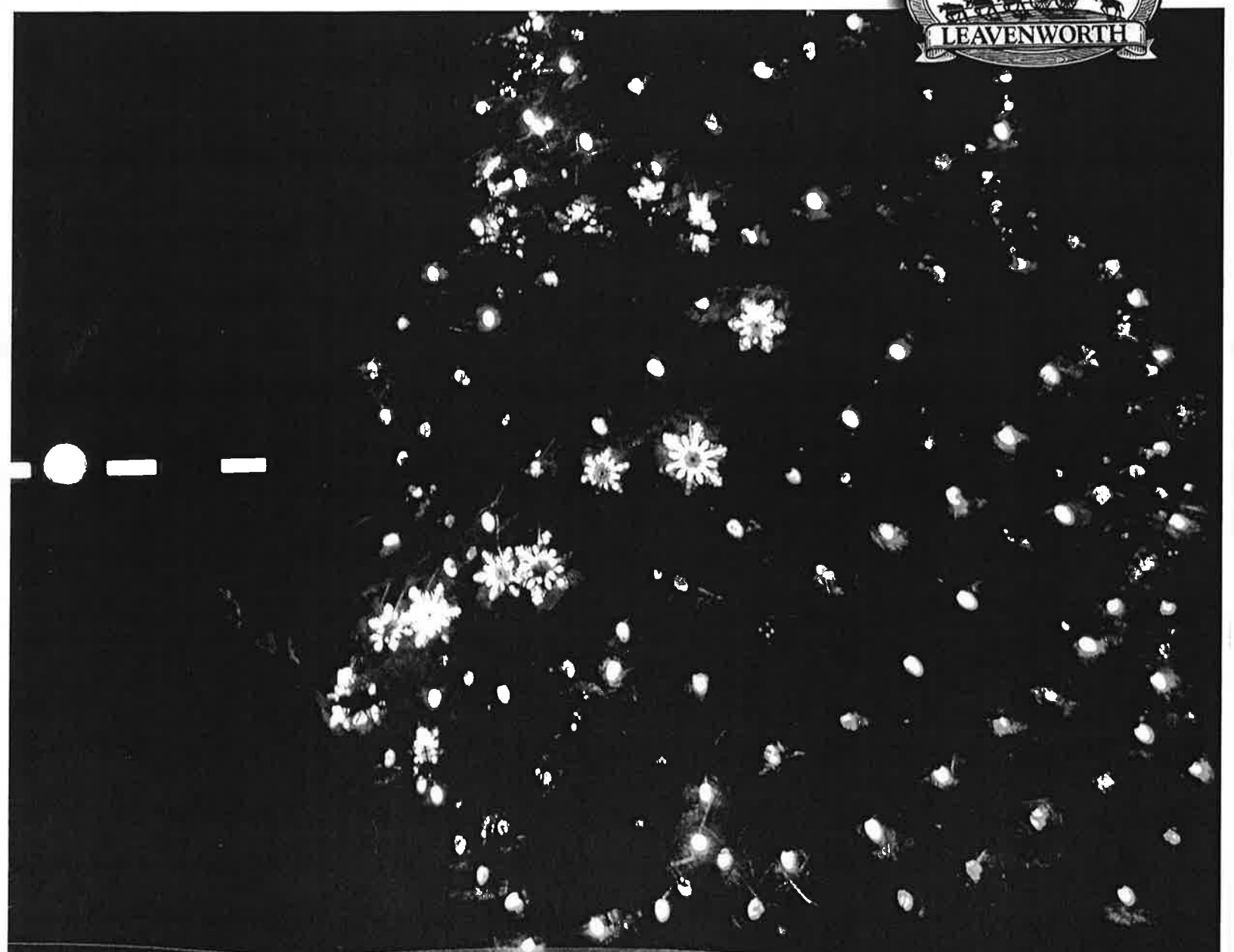
Qualified repairs include: heating system, roofing, insulation, storm door, door, electrical issues, sanitary sewer (private), plumbing issues, handicap accessibility, exterior structural repair, windows (repair only) For applications or information call 913-680-2627.

The Home Repair Program assists low and moderate income Leavenworth homeowners with home repairs such as a ramp (ABOVE) for accessibility or a new furnace (RIGHT) or water heater. Contact the City of Leavenworth Community Development office for more information, 913-680-2627.

Leavenworth Parks and Recreation Activity Guide

First City Connection

INFORMATION FOR BUSINESSES AND RESIDENTS | DECEMBER 2017 - MARCH 2018



Inside:

Erosion control plan: Update on Three Mile Creek Trail

In 2016, major soil erosion problems caused the collapse of terrain surrounding property owned by Kansas One/ ONE Gas. The City had to close the pedestrian bridge along the Three Mile Creek trail for pedestrian safety. Photos here show the changing creek bed terrain in 2014 (left) and 2016 (right). Erosion had been caused by decades of redevelopment along the creek and significant rainfall events, including an incident July 6, 2015,when more than six inches of rain fell in two hours. City engineers have a plan to fix the creek bank and reopen the trail, but first had to come to a memorandum of understanding agreement with the local gas service. With that in place, the City has now put out a bid for construction on the project with the gas company paying for 65% of the cost.

City offers new software tool to share information about trash and recycling

The City of Leavenworth has partnered with a new software program to help inform residents about trash and recycling. The Recycle Coach™ app, called "Garbage and Recycling Information," is free for smartphones and tablets and viewable on any desktop computer.
Residents can enter their address to find the correct trash day, even during a holiday. The app also provides information about how to recycle, how to get rid of yard waste and household hazardous waste.
Residents can find hours for the Brush Site, 1803 S. Second St., and the Recycling Center, which is one block east of Leavenworth High School at the intersection of Lawrence and Halderman streets.

Residents can choose to set automatic reminders sent to an email address. Options for automatic e-mail reminders include:

- Weekly summary of trash services
- Weekly reminder to put out your trash
- Changes in service because of the holidays

Special events like the Free First Saturday when the Brush Site is open free to City of Leavenworth residents.

The Recycle Coach™ app is free to download and is on the City's website at https://www.lvks.org/department/division.php?structureid=143 (or just click on the "Trash Recycling" blue button on the City's Homepage) A downloadable app for smartphones, laptops and tablets is also available from the iTunes Store and Google Play.

2.16

Colette Kiszka

From: Mike McDonald
Sent: Friday, February 02, 2018 10:19 AM
To: Colette Kiszka
Subject: FW: Outside Groups on Clean-up

From: Melissa Bower
Sent: Friday, February 02, 2018 10:18 AM
To: Mike McDonald
Subject: RE: Outside Groups on Clean-up

Yes, we had a group of freshmen from the University of Saint Mary pick up trash at Sportsfield in August. The City assigned them an area, provided them with trash bags and came by to pick up the filled trash bags when they were done. They have made it an annual tradition for their freshman class each year.

We had a group of young girls, the American Heritage Troop, do an "Adopt a Park" at Jefferson Park last year. It is the first time this park has been sponsored. I'm not sure if they did any cleanup yet but they plan to do so.

From: Mike McDonald
Sent: Friday, February 02, 2018 10:15 AM
To: Melissa Bower
Cc: Carla Williamson; Mike Hooper; Colette Kiszka
Subject: Outside Groups on Clean-up

In 2017 - Did we have any inquiries and/or actual work groups from outside groups related to cleanup other than City Wide Cleanup?

Mike

Michael G. McDonald, PE
Director of Public Works
City of Leavenworth
100 N Fifth Street
Leavenworth, KS 66048
mmcdonald@firstcity.org
913-684-0375

3.8

Colette Kiszka

om: Michelle Meinert
Sent: Friday, January 12, 2018 3:38 PM
To: Colette Kiszka
Subject: RE: Illicit Discharge Detection and Elimination (IDDE) Training Recipients

Thank you ☺

From: Colette Kiszka
Sent: Friday, January 12, 2018 2:55 PM
To: Michelle Meinert; Lona Lanter
Subject: Illicit Discharge Detection and Elimination (IDDE) Training Recipients

Michelle/Lona,

Here are the names of the employees who attended the IDDE training on December 20, 2017:

Becky Beaver
Jim Beardsley
Chris Par
Dennis Visocsky
Shane Milburn
Curtis Marks
Steve King
Mike McDonald
Mike Stephan
Barry Smith
Justin Stewart
Jon Lemke
Sam Harrison
Hal Burdette
Mark Kramer
Bill Corbet

They have received their certificates already.

Colette Kiszka
Administrative Assistant
Public Works Department
City of Leavenworth
100 N. 5th Street
Leavenworth, KS 66048
Office: 913-684-0375
Fax: 913-682-1521
Email: ckiszka@firstcity.org

Illicit Discharge Detection/Elimination Training - December 20, 2017

Project: _____
Facilitator: _____
Place/Room: _____

ENVIRONMENTAL WORKS
OUR EXPERTISE. YOUR SUCCESS.

	PRINT NAME / TITLE	SIGNATURE	EMAIL
1.	JUSTIN STEWART CET.		JSTEWART@FIRSTCITY.ORG
2.	MIKE STEPHAN	FM	mstephan@firstcity.org.
3.	MIKE McDONALD		MMCDONALD@FIRSTCITY.ORG
4.	Barry Smith		Bsmith@firstcity.org
5.	Shane Milburn		
6.	Chris Parr		
7.	Becky Beaver		bbeaver@firstcity.org
8.	Dennis Visocsky		dx359@hotmail.com
9.	James Beardsley		JPBrdsly6666@Gmail
10.	Curtis Marks Sr.		Camarks@firstcity.org
11.	Steve King		SKing@FirstCity.org
12.	Sam Harrison		
13.	JON LENKE		
14.	Hal Burdette		hburdette@firstcity.org
15.	BILL CORBET		bcorbet@firstcity.org
16.	Mark Kramer		mkramer@Firstcity.org
17.			
18.			
19.			
20.			
21.			

ENVIRONMENTAL WORKS

Becky Beaver

has successfully completed

Illicit Discharge Detection Training

Permitting history, General stormwater awareness, Illicit discharge recognition, Characteristics, Prevention, and Response

James E. Barry

James Barry
Compliance Project Manager
Environmental Works, Inc.

Kyle Kosovich, CPESC
Stormwater Project Manager
Environmental Work, Inc.

Phone: 417-890-9500 Fax: 417-823-9659 24 Hour Emergency Response: 877-827-9500 www.environmentalworks.com

3.8

INFORMED INFRASTRUCTURE

V1

CONTINUING EDUCATION AIA

CONTECH ENGINEERED SOLUTIONS

Certificate of Completion

This is to certify that

Justin Stewart

has participated in

Introduction To Designing Corrugated Metal Pipe (CMP) Stormwater Detention Systems

Date Completed: June 15, 2017

1.0 Professional Development Hours

Kevin Carmody
Group Publisher
V1 Media

V1 Media is an approved provider in the American Institute of Architects (AIA) Continuing Education System
AIA Provider Number: 70118112

3.2

The USACE National Nonstructural Flood Proofing Committee

With Assistance of

Kansas Department of Agriculture Division of Water Resources

Certificate of Training

This is to certify that

Micheal Hooper

Attended and completed the four hour Workshop "Nonstructural Flood Protection Workshop" on August 3, 2017 in Lawrence, Kansas

US Army Corps of Engineers ®

Us Army Corps Of Engineers — Nonstructural/ Flood Proofing — National Nonstructural/ Flood Proofing Committee

Kansas Department of Agriculture

Randall L. Behm P.E.,CFM
Chair, National Nonstructural Flood Proofing Committee, US Army Corps of Engineers

Approved for 4 core education credits for Certified Floodplain Managers

Steve Samuelson CFM
National Flood Insurance Program Specialist
Division of Water Resources

The USACE National Nonstructural Flood Proofing Committee

With Assistance of

Kansas Department of Agriculture Division of Water Resources

Certificate of Training

This is to certify that

Harold Burdette

Attended and completed the four hour Workshop "Nonstructural Flood Protection Workshop" on August 3, 2017 in Lawrence, Kansas

US Army Corps of Engineers ®

US Army Corps Of Engineers — Nonstructural/ Flood Proofing — National Nonstructural/ Flood Proofing Committee

Kansas Department of Agriculture

Randall L. Behm P.E.,CFM
Chair, National Nonstructural Flood Proofing Committee, US Army Corps of Engineers

Approved for 4 core education credits for Certified Floodplain Managers

Steve Samuelson CFM
National Flood Insurance Program Specialist
Division of Water Resources

3.8

LEARN +EARN

CERTIFICATE OF COMPLETION

3 PDU's

THIS CERTIFICATE IS PROUDLY PRESENTED TO

JUSTIN STEWART

THIS DAY OF APRIL 13TH, 2017

For participating in the 2017 ESS Learn + Earn. You have attended three continuing education sessions earning three Professional Development Units (PDU's).

Timothy Brawson

SIGNATURE

4/13/2017

DATE

3.11

City of Leavenworth
Grease Prevention Program
2017 Summary

February 14, 2018

The City of Leavenworth's Building Inspections Office continues to oversee a grease trap/interceptor inspection and maintenance program as part of the effort to prevent backups in the sewer lines. This effort is expected to reduce the number of instances where the contents of the sanitary sewer overflowed into homes, yards or streets.

The ongoing efforts include the following general activity:

1. Contact property owners and tenants whose buildings require a grease trap/interceptor with a letter informing them that the devices are required and that the devices require routine maintenance to operate properly
2. Perform annual inspections of the grease traps/interceptors to ensure that they are installed and maintained correctly
3. Communicate the need for routine maintenance by sending letters, requesting copies of maintenance records

Utilizing records from 2016, there were 60 businesses identified at the beginning of 2017 that staff believed may require a grease trap/interceptor.

The program goal was to send five letters each month requesting copies of maintenance records, and five letters each month requesting that the establishment contact the Building Inspection office and schedule an inspection of the grease trap/interceptor at their location. Approximately 110 letters were sent in 2017.

As a result of the response from the letters, staff determined that there are now 54 businesses that may require grease trap/interceptor. Six establishments were removed from the list after additional information was received.

Staff performed 27 documented inspections on grease traps in 2017. Three establishments that were required to, but did not have a grease trap/interceptor previously, hired plumbing contractors and had grease traps installed in 2017.

Additional businesses were visited to verify grease interceptors were in place, but no actual inspections were performed on these devices due to the design of the devices.

There were five establishments that did not respond to the request for on-site inspections.

As other establishments are built or identified as needing to have a grease trap/interceptor, the establishment will be added to the programs records.

An adequate response related to copies of inspection records has been received, although multiple requests are necessary at times. Staff received copies of maintenance records from 26 of the businesses identified.

The program will change slightly in 2018. Staff opinion is that the program will be simpler to manage if mailings are no longer done on a monthly basis. There will still be two letters sent to each business, but they will now be sent to all businesses at the same time. One letter requesting copies of maintenance records will be sent towards the middle of the calendar year, and the letter requesting an on-site inspection will be sent towards the end of the calendar year. Each establishment will continue to receive each letter every year and one inspection will be performed each year.

Staff opinion is that creation of fee and fine structure for grease trap installations would have some value to assist with the inspection program.

3.11

YTD - GREASE TRAP/ RECEPTOR SURVEY

12/31/2017

NUMBER OF BUSINESSES CONTACTED	**60**
INSPECTION REQUEST ARE RECORD REQUEST LETTERS MAILED OUT	108
NUMBER OF CLOSED BUSINESSES	2
NUMBER OF BUSINESSES THAT REQUIRE TRAPS/INTERCEPTORS	54
BUSINESS EXEMPT FOR GREASE EQUIPMENT	6
NEW EQUIPMENT INSTALLS	3
BUSINESSES NOT YET INSPECTED	5
NUMBER OF SITE INSPECTIONS OF GREASE TRAPS	27
NUMBER OF MAINTENANCE RECORDS RECEIVED	26

4.4

January 23, 2017

Re: Land Disturbance Permit (LDP) Program
2017 Revisions

Dear entrepreneur,

You are receiving this letter because you or your business is involved in the activities of utility construction, land excavation, building construction, etc. that may involve items covered by the land disturbance permit program.

The city established the LDP program in early 2016 in an effort to meet KDHE and EPA requirements. In November of 2016, The City held a meeting for contractors, utility companies, and staff to review the status of the program and to review proposed changes for 2017. Based on the results of that meeting and a review with the city Commission approved several significant changes to the program beginning in 2017 that are presented below. The major changes are shown below

- Allows for a city-wide annual SWPPP for utility companies
- All companies obtaining a LDP:
  - Must pay a fee for the LDP
  - Must obtain a Clean-up Bond
  - Subject to penalties for failure to obtain a LDP and/or maintain erosion control structures
  - Building Contractors and developers will be required to submit all LDP inspection records prior to the issuance of a final or Occupancy Inspection and approval.

1. **Public Utility Companies and Franchised Utility Companies**
   Franchised and/or Public Utilities are required to provide the City with an **annual** SWPPP that outlines all erosion control standards and construction methods to be used by their personnel or by personnel of a subcontractor doing work for a franchised or public utility. The SWPPP must include wording that states all subcontractors doing work for the utility will adhere to all provisions as outlined in the document. The utility and all subcontractors are required to submit a Surety Bond in the amount of $5,000.00 prior to the issuance of the annual LDP. This allows normal utility work to proceed with a minimal permitting process.

- **Annual SWPPP's and required bonds are required to be submitted no later than February 28, 2017. Annual renewal after 2017, will require the submittal of all required documents due by January 15 of the renewal year thereafter.**

2. - **Excavation contractors, developers, and building contractors are required to pay the fees and submit surety bonds as outlined in the Schedule of Fees, Leavenworth City Code.**

   Any Franchised/Public Utility, utility subcontractor, excavation contractor, developer, building contractor, etc. are subject to any and all penalties and enforcement actions for their failure to comply with all requirements of the "Land Disturbance Program. A copy of the adopted program and fee schedule is included with this letter.

If you have any question, don't hesitate to contact me at 913-684-0378 or by email at cwilliams@firstcity.org.

Respectfully,

Cassidy Williams
Inspection Department Clerk
City of Leavenworth, KS

4.4

April 7, 2017

Co. Name
Mailing Address
City, State, Zip

Re: SPRING 2017 Q & A Discussion

Dear entrepreneur,

In an ongoing effort to improve public knowledge of the City's SSO procedures and remain in compliance with EPA requirements, the City of Leavenworth's Inspection department will hold an informative meeting on April 28, 2017 from 4:00p.m. – 5:00 p.m.

Primarily the discussion will revolve around the International Plumbing and Residential codes and how they are affected by the EPA's recent action with the city.

Some issues that have arisen and will be part of the discussion will be:

- Sanitary Sewer Overflow (SSO) procedures
- Erosion control measures
- Grease trap program and reporting

Feel free to contact me with any questions. (913) 684-0378.

Sincerely,

Mark Kramer
Plumbing Inspector

DATE: 4/28/17

Project /Meeting Name: 550 Procedures

Project No:

Name	Company	Phone	email
Joey Denney	JF Denney	6822182	joey@jfdenney.com
Curtis Ramsey	NPL Construction Co	785-230-9202	cramsey@gonpl.com
Mike McCann	McCann Plumbing	727-6225	michael.d.mccann@gmail.com
Chuck Staples	City of Lenexa	913-682-1090	cstaples@firstcity.org
Mike Hooper	City	913-684-0396	mhooper@firstcity.org
Mike McDonald	City	9136840375	MMCDONALD@FIRSTCITY.ORG
Bill Corbet	CCI	913 683 1569	billcorbet@hotmail.com
Hall Burdette	City	913-684-0378	hburdette@firstcity.org
Dave Bauerly	Ladd Service Co	913-369-3509	PBRED@Aol.com
Mark Kramer	City of LV	913-684-0385	mkramer@firstcity.org

4.6

Michael Stephan

From: Justin Stewart
Sent: Thursday, February 15, 2018 8:02 AM
To: Michael Stephan
Subject: RE: 2017 KDHE Annual Report

2017 Sidewalks Phoenix 2016-845
2017 I and I Linaweaver 2016-832
2nd and Choctaw Baker 2017-855
Ottawa Watershed Linaweaver 2016-786
Park 10 Ct Storm Rehab Linaweaver 2017-870
2nd Street Emergency Storm repair 2017-860

JUSTIN RESPONSIBLE FOR 6 PROJECTS FOR 2017 PLUS VARIOUS UTILITY/ROW PROJECTS.

Justin Stewart
Civil Engineering Tech. II
City of Leavenworth
100 North 5th Street
Leavenworth, KS. 66048
913-684-0368
913-684-0375
913-682-1521 (fax)
jstewart@firstcity.org

From: Michael Stephan
Sent: Wednesday, February 14, 2018 2:51 PM
To: Justin Stewart; Barry Smith
Subject: 2017 KDHE Annual Report

Guys,

I need the following for 2017: (re: Stormwater run-off)

- The total number of projects that you performed inspections on in 2017.
- 2-3 copies of actual inspections (Either inspection form or daily log stating inspection)
- Above: from 3-4 projects
- Barry
  - Include 2-3 inspections from detention basins
  - Total number of Detention Basins that we monitor

Try to work on some today.
I know that you both have a training class tomorrow, if you get done early enough try to come in and get this info together so I can pass on for the Annual Report.
If not please work on Monday. Need ASAP.

Thanks,

Mike S.

Mike Stephan
Project Manager
City of Leavenworth

100 North 5th Street
Leavenworth, Kansas 66048
Office: 913-684-0392
Cell: 913-547-2166
Fax: 913-684-1521
mstephan@firstcity.org

4.6

DAILY REPORT

PREPARED BY JUSTIN STEWART
CITY OF LEAVENWORTH, ENGINEERING DEPARTMENT

PROJECT	2014-786 OTTAWA STREET WATERSHED SEP	SUPERINTENDENT	BOB SMITH
LOCATION	OTTAWA STREET, 7TH TO BROADWAY	SAFETY OFFICER	JOHN WILL
CONTRACTOR	LINAWEAVER CONSTRUCTIION	FIELD FORCE	2

DATE	04/10/17	TEMP AM	42	CONDITIONS AM	Partly cloudy
DAY	MONDAY	TEMP PM	70	CONDITIONS PM	Partly cloudy

CALENDAR DAYS	90	DAYS USED	24	DAYS REMAINING	66
BEGINNING DATE	11/07/16	END DATE	02/05/17	EXTRA DAYS GRANTED	0

BARRICADES/FENCE	x	PLANS	x	PICTURES	yes
DETOUR	x	LEVELING EQUIP	x		
CONES		STAKES	x		
TRENCH BOX	x				

CONSTRUCTION ACTIVITIES

Clean up at kickapoo
Set erosion control at the south side detention area at Kickapoo
Poured cub along the south side of Kickapoo

4.6

Erosion and Sediment Control Inspection Report Form

Project Name and Location: PARK TEN C1 Storm Replacement

Weather: Partly cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: Milwaukee

A. Current Construction / Active Areas:

Muncie AND 10th AVE

Storm Replacement

Pollution Control Measures (BMP) Checklist:

- ___ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

12-4-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location:

Weather: Cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: Homeowner

A. Current Construction / Active Areas:

None

Project complete

Seeding & Erosion Mat on 12-13-17

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ✓ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ✓ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

12-18-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

4.C

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2017 SIDEWALKS

Weather: cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: PHOENIX CONST

A. Current Construction / Active Areas:

TONGANOXIE RD / 20TH STREET

GRADING / Clearing / Grubbing

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

10-12-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2017 SIDEWALKS

Weather: Partly cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: PHOENIX CONST

A. Current Construction / Active Areas:

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ✓ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

10-26-17
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2017 SIDEWALKS

Weather: Partly cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: PHOENIX CONST

A. Current Construction / Active Areas:

20th Street
Tonto Road

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ✓ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ✓ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

11-9-17
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2017 SIDEWALKS

Weather: Partly sunny

Rain in last 24 hrs (inches): 0

Owner / Permittee: PHOENIX CONST

A. Current Construction / Active Areas:

20th Street

Tongie Road

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ✓ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ✓ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

1-23-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2017 SIDEWALKS

Weather: Cloudy

Rain in last 24 hrs (inches): 0 TRACE

Owner / Permittee: PHOENIX CONST

A. Current Construction / Active Areas:

20th STREET
TONGUE ROAD

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ✓ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

12-7-17
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2017 SIDEWALKS

Weather: Rain

Rain in last 24 hrs (inches): TRACE

Owner / Permittee: PHOENIX CONST

A. Current Construction / Active Areas:

20th Street
Tongue Road

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ✓ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ✓ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

12-21-17
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

4.6

Erosion and Sediment Control Inspection Report Form

Project Name and Location: 2nd & CHOCTAW STREET

Weather: cloudy

Rain in last 24 hrs (inches): 0 TRACE

Owner / Permittee: BAKER

A. Current Construction / Active Areas:

PARKING LOT 2nd & CHEROKEE

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

11-15-17
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location:

Weather: Cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: Baker

A. Current Construction / Active Areas:

2nd & Cherokee

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

11-29-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location:

Weather: clear

Rain in last 24 hrs (inches): 0

Owner / Permittee: Baker

A. Current Construction / Active Areas:

2nd + Cherokee

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

12-12-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location:

Weather: Snow

Rain in last 24 hrs (inches): 0

Owner / Permittee: BAKER

A. Current Construction / Active Areas:

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ___ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

12-26-17

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

4.6

Erosion and Sediment Control Inspection Report Form

Project Name and Location: SANITARY I and I

Weather: cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: LINAWEAVER

A. Current Construction / Active Areas:

Alley Between Cheyenne AND Pawnee STREETS.

PVC Sewer Main

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ✓ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

NOV 20, 2017
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: SANITARY I AND I

Weather: cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: LINAWEAVER

A. Current Construction / Active Areas:

Alley Between Cheyenne AND Pawnee STREETS.

PVC main sewer

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ✓ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

Dec 1, 2017

Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: SANITARY I AND I

Weather: Cloudy

Rain in last 24 hrs (inches): 0

Owner / Permittee: LINAWEAVER

A. Current Construction / Active Areas:

Alley Between Cheyenne AND Pawnee STREETS.

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ✓ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

Dec 12, 2017
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: SANITARY I and I

Weather: clear

Rain in last 24 hrs (inches): 0

Owner / Permittee: LINAWEAVER

A. Current Construction / Active Areas:

Alley Between Cheyenne and Pawnee Streets.

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ✓ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

Dec 14, 2017
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Erosion and Sediment Control Inspection Report Form

Project Name and Location: SANITARY I AND I

Weather: SNOW Flurries

Rain in last 24 hrs (inches): 0

Owner / Permittee: LINAWEAVER

A. Current Construction / Active Areas:

Alley Between Cheyenne AND Pawnee STREETS.

None

Pollution Control Measures (BMP) Checklist:

- ✓ Inlet Barrier (i.e.: gravel bags)
- ___ Sediment Barriers (i.e.: ditch checks)
- ___ Erosion Blankets, Hydromulch / Seed, etc
- ✓ Stabilized Construction Entrance
- ___ Stream Crossings
- ___ Seed / Sod Areas
- ___ Sediment Basins & Discharge Locations
- ___ Borrow Areas
- ✓ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

Dec 26, 2017
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

4.6
513

City of Leavenworth
Building Inspections Land Disturbance Inspection Program
2017 Summary

February 14, 2018

The City of Leavenworth's Building Inspections Office continues to oversee Land Disturbance Permits issued for private property projects within the City.

Land Disturbance Permit inspections for the private property projects are performed by the inspectors of the Building Inspections Office. Each Land Disturbance Permit is assigned to an inspector and bi-weekly calendar events are added to their calendars as a reminder.

The inspectors visit each site at the beginning of each project and review the current site conditions. The inspector completes an inspection report and takes photos of the site. They continue to inspect the site on a bi-weekly basis until the project is completed, at which time they take additional photos and complete the final inspection form. The inspector also logs each inspection on a Projection Inspection Log. All forms and photos are saved to the Land Disturbance Permit project folder.

During the project, if the inspector finds any issues while on site, they take photos and completes a form identifying the concerns. The inspector gives this information to the office clerk who notifies the permit holder of the deficiencies and those repairs/corrections that need to be made. Once corrections have been completed, the inspector reviews the site for compliance.

4.6

City of Leavenworth

LAND DISTURBANCE PERMIT APPLICATION

(Fill Permits Require An Additional Application)

City of Leavenworth Public Works
100 N. 5th Street
Leavenworth, KS. 66048
913 684 0378

Date 09/11/17

Applicant Name: WILLIAM H. CURTIS Phone: 913(208) 5137

Complete Mailing Address: 1519 5th Ave LEAVENWORTH, KS 66048

Email: billCURTIS852@GMAIL.COM

Project Type

X Single Family Home
___ Commercial/Mutli-family
___ Single Family Subdivision
___ Building Addition
___ Utility Extension
___ General Grading/Filling
___ Public Improvement Project
___ Other: explain Below

Project Location

Property Address: 1519 5th Ave.
Name of Project or Subdivision: ___
Owner of Record : WILLIAM CURTIS Phone number: 913 208 5137

Work Schedule Start Date: 09/15/17 End Date: 09/22/17

Total Site Area: ___ Acres/or ___ Sq. Feet
Total Area of Land Disturbance: ___ Acres/or ___ Sq. Feet

City of Leavenworth

LAND DISTURBANCE PERMIT APPLICATION

Parties Responsible for Maintaining Erosion Control

Check one: Contractor _____ Or Property Owner X

Name: WILLIAM CURTIS

Mailing Address: 1519 5th Ave, Leavenworth, KS 66048

Business Phone : 682-2000 Cell Phone (913) 208-5137

Email: billcurtis852@gmail.com

General Contractor contact information

Company Name: MAURESE BROWN

Mailing Address: _____

Business Phone: _____ Cell Phone: (913) 306-7551

Email: _____

Does work include any construction activity in the FEMA regulated floodplain?

Yes ____ No X

Note; Additional permits for work in floodplain are required. Attach any additional information to this permit application.

City of Leavenworth

LAND DISTURBANCE PERMIT APPLICATION

Applicant knowledges they have provided the following documents and have been advised of inspection requirement. *(Initial next to each item)*

X Completed Land Disturbance Application
X Attached site specific Erosion Control Plan
___ Attached site specific grading plan
___ Schedule for duration of land disturbance
X This is a single family building project or home addition and I as applicant will follow the attached "Single Family Lot Erosion and Sediment Control Plan"

___ The applicant by submitting this application does agree to perform all necessary work to include bi-weekly inspections and inspections after each ½" rain event (24 hour). The applicant will supply the City of Leavenworth with all inspection records upon request, and copies must be provided in order to obtain a Compliance Certificate.

The applicant fully understands that the responsible party shall comply with this permit and repair all substandard erosion control within a 24 hour period after notification of failure to comply with the plan. Failure to comply within the allotted time frame is a violation and shall be reason for the City of Leavenworth to issue a **Stop Order** on all work, repair the damaged erosion control, and clean all surrounding grounds. The contractor/owner shall be held responsible for all expense incurred to remedy the violation and may be charged with a Nuisance Complaint in Municipal Court. Contractors will be required to submit copies of BMP Inspections prior to a certificates of occupancy being issued.

Applicant Signature: William H Curtiss

Owner Signature: _____

Revised: September 10, 2015

EXCAVATION/FILL PERMIT APPLICATION

1. Date of Application SEE LDP

2. OWNER INFORMATION

   A. Name _____

   B. Mailing Address _____

   _____

   C. Telephone _____

3. CONTRACTOR INFORMATION

   A. Name SEE LDP

   B. Mailing Address _____

   C. Telephone _____

4. Job address _____

5. Legal description Remove old retaining 3' STONE retAINING WALL, taper lawn 9' from the curb.

   _____

   (Attach separate sheet if necessary)

6. Has there been any state or federal excavation permits issued for the above described property? ☐ Yes ☒ No

   No city permit will be issued until all federal and state requirements are met. A conditional approval may be issued to facilitate applications to federal and state agencies.

7. Is the proposed fill site located in the flood plain as shown on the Federal Emergency Management Agency maps? ☐ Yes ☒ No ☐ Don't know

8. The expected time duration of the excavation or fill 1 ~~to~~ 2 weeks

9. Will the excavation create a hazard to life, limb, or endanger property or adversely affect the safety, use, or stability of a public way or drainage channel?
☐ Yes ☒ No

10. Will this project require any special inspection? ☐ Yes ☒ No

11. Nature of fill material top soil

12. Total amount of cubic yards involved 2 STANDARD TRUCKLOADS OF TOP SOIL

13. Will the excavation or fill involve more than 5,000 cubic yards?

☐ No – Section A applies to this excavation or fill work
☒ Yes – Section B applies to the excavation or fill work

14. SECTION A:

A. Grading involving less than 5,000 cubic yards shall be designated regular grading unless the permittee chooses to have the grading performed as engineered grading, or the Director of Public Works or his designated agent determines that special conditions or unusual hazards exists, in which case, grading shall conform to the requirements for engineered grading.

B. Each application for a regular grading permit shall be accompanied by a plan in sufficient clarity to indicate the nature and extent of the work. The plans shall give the following information:

1. Location of the work
2. The name of the owner
3. Name of the person who prepared the plan
4. General vicinity of the proposed site
5. Limiting dimensions and depth of cut and fill
6. Location of any buildings or structures where work is to be performed
7. Location of any building or structures within 15 feet of the proposed grading

15. SECTION B:

A. Grading in excess of 5,000 cubic yards shall be performed in accordance with the approved grading plan per Chapter 22, Section 22-114 City Code of Ordinances (Ordinance No. 7385) which states as follows:

Application for a grading permit shall be accompanied by two sets of plans and specifications. Supporting data consisting of soils engineering

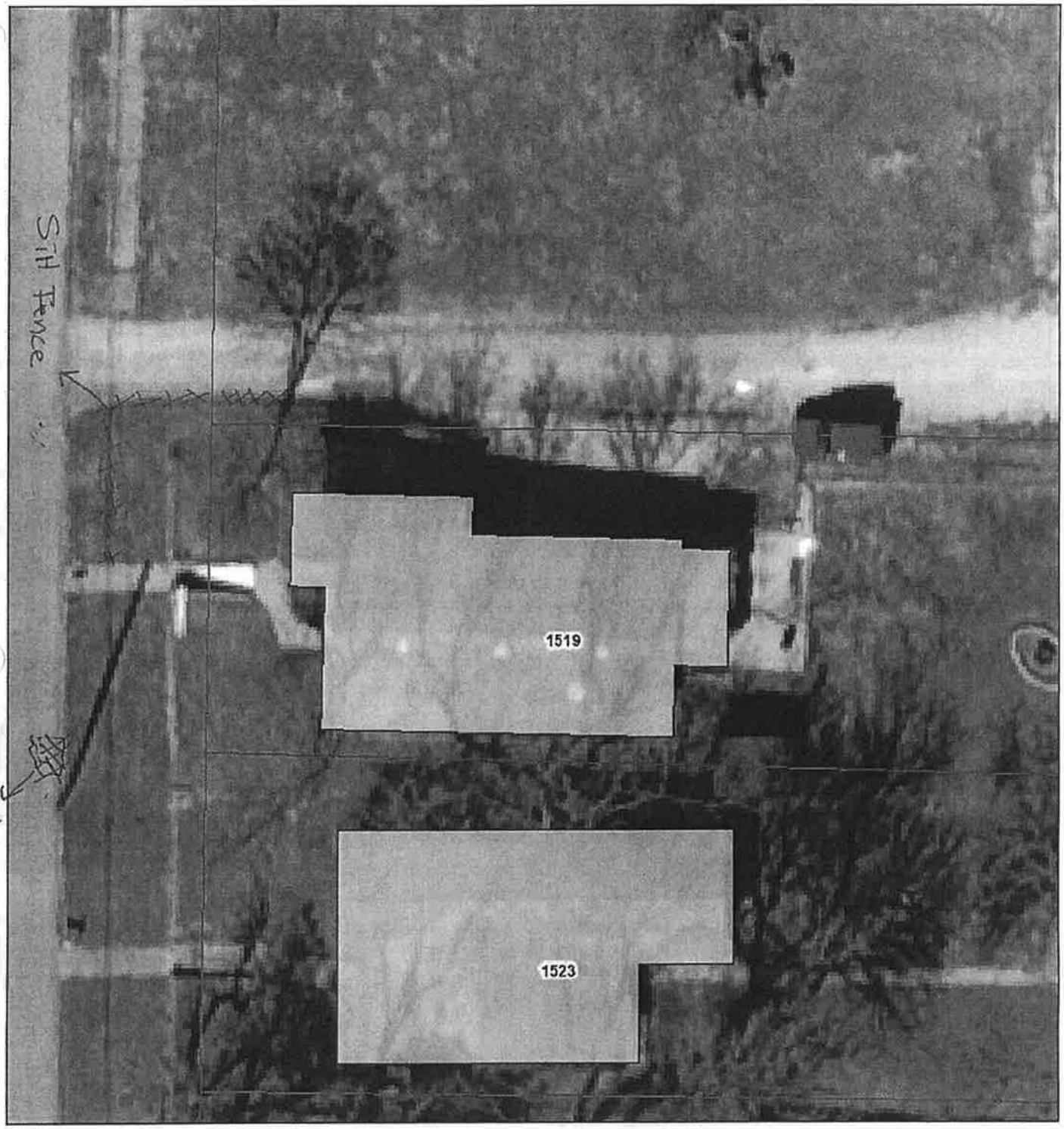
report and an engineering geology report may be required by the Director of Public Works or his designated agent. The plans and specifications may be required to be prepared and signed by an engineer licensed in the state of Kansas when directed by the Director of Public Works or his designated agent.

B. Will the excavation or fill be engineered? ☐ Yes ☒ No

C. If the excavation or fill will be engineered, the following information or item must be supplied:

1. General vicinity of the proposed site.
2. Property limits and accurate contours of existing ground and details of terrain and area drainage.
3. Limiting dimensions, elevations or finish contours to be achieved by the grading and proposed drainage channels, and related construction.
4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with, or as a part of, the proposed work together with a map showing the drainage area and the estimated runoff of the area served by any drains.
5. Location of any building or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within 15 feet of the property or which may be affected by the propsed grading operations.
6. Recommendations included in the soils engineering report and the engineering geology report shall be incorporated in the grading plans or specifications. When approved by the Director of Public Works or his designated agent, specific recommendations contained in the soils engineering report and the engineering geology report, which are applicable to grading, may be included by reference.
7. Bonds to cover roadway repairs may be required as deemed necessary by the Director of Public Works or his designated agent.

City of Leavenworth, KS GIS Web Map



September 11, 2017

1:282

0 0.00225 0.0045 0.009 mi

0 0.00375 0.0075 0.015 km

Address (Points)
Buildings
Parcels
Parcels (City Owned)
Streets
East_of_River_Blank

Ortho 2016
Red: Band_1
Green: Band_2
Blue: Band_3
Pavement
Alleys

City Right-of-Way
RoadCenterline
Leavenworth City Limits

City of LV GIS, 2017
LV GIS Dept 09/23/2016
City of LV GIS
Dave Griffith, 2013
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the

City of Leavenworth
2017

City of Leavenworth

100 N. 5th St.
Leavenworth, KS 66048
(913)684-0378

PERMIT NUMBER
3220
Issue Date: 09/11/2017

Permit Type: LAND DISTURBANCE PERMIT

Parcel Number	Street Address
1010102005002000	1519 5TH AVENUE
Zone Code	**Jurisdicton**
R16	LEAVENWORTH

Owner Information	Applicant Information
Name: CURTIS, WILLIAM H Phone: 913-208-5137	Name: CURTIS, WILLIAM H Phone: 913-208-5137

Contractor Information

Name: CURTIS, WILLIAM H	License Number:
Address: 1519 5TH AVE	License Exp. Date:
Phone:	Insurance Exp. Date:

Building Information

Proposed Use:	Finished Sq. Ft:
Construction Type:	Unfinished Sq. Ft:
Occupancy Group:	Garage Sq. Ft:
Estimated Cost of Construction: $	Number of Stories:

Project Description: LAND DISTURBANCE PERMIT

Scope of Work:

FOR CONSTRUCTION OF RETAINING WALL IN FRONT OF HOME

I, the undersigned, hereby agree to comply with all applicable laws regulating the work. I have also received a copy of this document and understand that it is my responsibility to inform this office of any change of contractor by completing and submitting a change of contractor form if necessary. Separate permits are required for electrical, plumbing, heating, ventilating or air conditioning. It is the responsibility of the owner/applicant to identify and abide by all easements, covenants and other regulations related to land use that may be affected by the construction work for which this permit is issued.

Signature of Owner/Contractor

Signature of Approving Official

Date: 09/11/2017

ANY PERMIT ISSUED EXPIRES SIX (6) MONTHS AFTER ISSUANCE IF NO INSPECTIONS HAVE BEEN MADE.
ANY PERMIT ISSUED SHALL EXPIRE SIX (6) MONTHS AFTER ISSUANCE IF THE WORK IS DISCONTINUED.

Application Number	2822	TOTAL FEES:	$

ORIGINAL COPY

Job Address: 1519 5th Ave

Job description ~~Retaining wall Front of home~~ Grading to eliminate retaining wall.

Initial Inspection of Erosion and Sediment Control

LDP# 2822 App# _____ Owner/Contractor Curtis williams

Date issued 9-11-17 Inspection date 9/20/17 Inspector M KRAMER

A. Project Overview

- How Many Acres Total Does the Project Disturb? <1
- Project Start Date: 9/20/17 Project End Date:
- Phase I start date?_____

B. Paperwork

• *Does the project have a Land Disturbance Permit?	(Yes)	No	N/A
• *Is the SWPPP Notebook onsite?	Yes	No	(N/A)
• * Is the Inspection log on site?	Yes	No	(N/A)

C. Site Preparation

• *Has the contractor installed temporary construction entrance(s) and are the vehicles using it?	Yes	No	(N/A)
• *Is there a place for concrete wash-out, is it clearly marked and do concrete trucks appear to be using it?	Yes	No	(N/A)
• *Is the site largely free of construction trash? (cups, lunch sacks, material packaging, etc.)	(Yes)	No	N/A
• *Have perimeter sediment controls been installed?	(Yes)	No	N/A
• *Have pre-construction controls been installed per the plan?	Yes	No	(N/A)
• *Have easily recognizable indications of the construction limits been installed? (fencing, staking, physical barriers)	Yes	No	(N/A)

* Must be "yes" or N/A in order for inspection to be "satisfactory".

D. Approval

City staff initial for approval:

MK Land disturbance work **will** proceed, as this site has met all the initial standard requirements of the City of Leavenworth's General Guidelines for Stormwater and Drainage measures.

_____ Land disturbance work **will not** proceed as this site has not met all the initial standard requirements of the City of Leavenworth's General Guidelines for Stormwater and Drainage measures. The deficiencies below must be corrected in order to have a satisfactory inspection:

1._____
2._____
3._____

Erosion and Sediment Control Inspection Report Form

Project Name and Location 1519 5th AVE GRADING AP 2822

Weather: 75 PARTLY CLOUDY

Rain in last 24 hrs (inches): 0.00

Owner / Permittee: WILLIAMS

A. Current Construction / Active Areas:

TAKE OUT RETAINING WALL

Pollution Control Measures (BMP) Checklist:

___ Inlet Barrier (i.e.: gravel bags)
___ Sediment Barriers (i.e.: ditch checks)
_7_ Erosion Blankets, Hydromulch / Seed, etc
_7_ Stabilized Construction Entrance
___ Stream Crossings
_X_ Seed / Sod Areas
_/_ Sediment Basins & Discharge Locations
___ Borrow Areas
___ General Site Condition (trash, etc)

B. Problem Areas / Special Observations(*Note problem areas ONLY below*):

BMP	Location	Observations, Effectiveness, & Corrective Actions Ordered

C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.

D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

10-3-17
Date of Inspection

Inspector Signature

6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly • Protect the Swale, Ditch ,and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

Address 1519 5th AVE

Final Inspection of Erosion and Sediment Control

Application# 2822 Description GRADING Owner/Contractor
Permit# 3220 9-11-17
Issued Inspection Date 10-16-17 City Inspector:

Project Overview

- How Many Acres Total Does the Project Disturb? >1
- Project Start Date Project End Date

Paperwork

• Is the SWPPP Notebook onsite?	Yes	No	(N/A)
• Has a copy of the SWPPP been given to City staff	Yes	No	(N/A)

Final Site Preparation*

• Has the concrete wash-out area been cleaned?	Yes	No	(N/A)
• Is the site free of construction trash? (cups, lunch sacks, material packaging, wood debris, etc.)	Yes	No	(N/A)
• Have perimeter sediment controls been taken down?	(Yes)	No	N/A
• Have indications of the construction limits been taken down? (fencing, staking, physical barriers)	(Yes)	No	N/A
• Has all the dirt on the site been covered?	(Yes)	No	N/A
• Have appropriate grasses/sod/trees been planted?	(Yes)	No	N/A
• Have the plants accepted?	(Yes)	No	N/A
• Have gutters and streets been cleaned of soil/trash?	Yes	No	(N/A)
• Have all erosion controls been removed?	(Yes)	No	N/A
• Has all erosion control has been removed from City Right of way	(Yes)	No	N/A

* Must be "yes" or N/A in order for inspection to be "satisfactory".

Approval
City staff initial for approval:

_____ A Compliance Certificate **will be** submitted, as this site has met all the requirements of the City of Leavenworth's General Guidelines for Stormwater and Drainage standards.

_____ A Compliance Certificate will **not be** submitted until all above requirements of the City of Leavenworth's General Guidelines for Stormwater and Drainage standards have been met. The items below must be completed in order to have a satisfactory inspection:

1. _____
2. _____
3. _____
4. _____

PROJECT INSPECTION LOG FORM

Location 1519 5TH AVE **Project: RETAINING WALL** APP# 2822 PERMIT# **Issued: 9-11-17**

Owner: Curtis Williams

Contractor:

Day	YEAR: 20 17											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1												
2												
3										WC		
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
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25												
26												
27												
28												
29												
30												
31												

2822 WALL


1519 5TH AVE
LDP APP 2822
9/20/17


1519 5th AVE

Cassidy Williams

From: bill curtis <billcurtis852@gmail.com>
Sent: Monday, September 11, 2017 3:42 PM
To: Cassidy Williams
Subject: Grading

Sent from my iPhone

5-4

February 3, 2017

Three B`s CDS LLC
16214 Nicole Lane
Leavenworth, KS 66048

Subject: **Three B`s Commercial Center Detention Basin**
Annual Report on Maintenance

Dear property owners:

Thank you for your cooperation regarding the City`s evaluation of the detention basin on your property last year. These basins are an important part of managing water quantity and maintaining water quality throughout the community.

At this time we would again like to verify owner information and request records of maintenance activity since January 1, 2016. We are currently planning to have another public information meeting on February 27, 2017 from 4:00 to 5:30 P.M.

You may have a document that outlines the necessary maintenance activities. In the absence of such a document, some activities you may have performed are shown below. A typical log sheet is attached to this letter.

- Inspection of the facility
- Mowing of grass
- Repaired erosion
- Placed rip-rap
- Removed excess sediment
- Cleaned discharge pipe
- Cutting back trees and/or shrubs
- Picked-up/removed trash
- Similar and related activities

If you have any questions, inspection or maintenance records of the basins please email them to the City for review at bsmith@firstcity.org or mail them to 100 N 5th Street, Leavenworth, KS 66048, Attention: Public Works Department.

Sincerely,

Michael G. McDonald, P.E.
Director of Public Works

Cc: Paul Kramer, City Manager
Julie Hurley, City Planner

2/27/2017

Detention Basin Public Meeting Recap

Attendees: Barry Smith, City of Leavenworth
Mike McDonald, City of Leavenworth
Mike Hooper, City of Leavenworth
Justin Stewart, City of Leavenworth
Ted Davis, Westside Family Church
Jon Goodsmith, Pine Meadow Place
David Wolk, Armed Forces Insurance
Damon New, Crown Estates II

Ted Davis updated the address for WFC . We discussed the erosion control in place for the current project and removing it once the planted grass is established.

Jon Goodsmith has cleared the trees from the Pine Meadows detention basin. He said he spent about $1400 dollars for a contractor to remove them.

David Wolk updated the address for AFI. He did not have any records of inspection. The pond appears to be functioning properly.

Damon New has repaired erosion along the embankments of Crown Estates II detention basin with rip rap and regrading.

The City discussed options for maintenance with the attendees. A hand out sheet explaining basic maintenance and a typical inspection form was given. Example pictures of good maintenance and poor maintenance were shown to them. The city`s inspection files were discussed individually with the representative of each detention basin.

5.4

August 20, 2017

Correction Corporation of America
Attention: Maintenance Department
100 Highway Terrace
Leavenworth, KS 66048

Subject: Detention Basin

Dear Property Owner,

The City of Leavenworth is required to evaluate the effectiveness of facilities constructed to address stormwater runoff within the city. Maintenance and operation of ponds and detention basins are regulated by the Environmental Protection Agency (EPA), Kansas Department of Health and Environment (KDHE), and the City of Leavenworth, Kansas. Inspection and maintenance of the facility is typically provided by the property owner and/or a home owner's association.

Owners of ponds are also expected to be prepared to react in the event of a chemical spill or other contamination that impacts the water in their pond. The City of Leavenworth is requesting that you submit inspection reports and an action plan showing how you will report, contain, and protect the City stormwater system in case your detention basin is contaminated by chemical spills, sanitary sewer overflows, or other forms of contamination.

Attached are names and phone numbers of agencies you should contact for contamination emergencies and a basic check list. Please respond with your action plan and inspection reports of the basins by **January 31, 2018**. You can email them to the City for review to bsmith@firstcity.org or mail them to 100 N. 5th Street, Leavenworth, KS, 66048, Attention: Public Works Department.

Sincerely,

Michael G. McDonald, P.E.,
Director of Public Works

Attachments:
Immediate Action Plan
Basic Check List

cc: Paul Kramer, City Manager
Julie Hurley, City Planner

SAMPLE IMMEDIATE ACTION PLAN
SPILLS

If contamination occurs within the detention basin, action needs to be taken to mitigate pollution to the water and soil within the City stormwater system. The KDHE website list actions to be taken at: www.kdheks.gov/spill/download/KS_Spill_Reporting.pdf . Below is a list of recommended immediate actions to be taken and phone numbers of authorities to be contacted.

1. Containing the spillage by means of the safest practical way possible by blocking the outflow of the structure or downstream.

2. If the release is not contained or threatens the health or safety of the local population **dial 911**.

3. Contact the City Water Pollution Control 24/7: **913-682-1090**.

4. If a spill exceeds the reportable quantities of federally-listed hazardous materials,
    a. **dial 911**
    b. Contact **Leavenworth County Emergency Management:**
        i. **913-684-0455 or**
        ii. **Sheriff Office 913-682-1313**
    c. Work with the authorities to contain contaminants.
    d. **The Kansas Commission on Emergency Planning & Response (CEPR) – 785-274-1394 –** requires verbal notification and a follow-up written report within seven days after the verbal report.

5. Whenever a spill exceeds the reportable quantities of federally-listed hazardous materials, it must also be reported to the National Response Center (NRC). Federal law also requires any oil spill that has impacted or threatens a waterway must be reported to the NRC. EPA Region 7 Emergency Response Branch personnel monitor the NRC reports and may call the spiller back for more information. **NRC's 24-hour number is: 800-424-8802**.

6. Immediately make verbal notification to the Kansas Department of Health and Environment. The **Kansas Spill Reporting Number is: (24/7) 785-291-3333**.

It's a good idea to have the basic checklist, a map of the stormwater system, and a list of responsible party contact information conveniently available in the case of an emergency. Below is a basic checklist for use as an example.

5.4

BASIC CHECK LIST
DETENTION BASIN SPILL RESPONSE

1. Contact the authorities and identify basic information on the spill:
    a. Quantity and location of the spill.
    b. Type of contaminants.
    c. Time of spill.
    d. Whether injuries have occurred.
    e. Status of containment efforts.

2. Implement the immediate action plan:
    a. Obtain medical assistance if there has been an injury.
    b. Prevent sources of ignition for flammable materials.
    c. Contain the spill.

3. Notification of governmental authorities and others may be required:
    a. Identify applicable reporting requirements from laws, rules, and permits.
    b. Make notification as required by law, and notify neighbors if appropriate.

4. Respond and clean up as required by law:
    a. Call an outside contractor?
    b. Manage waste materials in accordance with the law.

5. Document events, notifications, and response actions through photographs, written summaries, copies of documents, etc.

6. Make written follow-up reports to government agencies and others as required by law.

7. Review spill to determine root cause and opportunities for prevention of similar spills.

5.4

Mike McDonald

From: Barry Smith
Sent: Friday, February 23, 2018 10:31 AM
To: Mike McDonald
Subject: FW: 2017 Inspections

From: Barry Smith
Sent: Thursday, February 08, 2018 8:07 AM
To: Barry Smith
Subject: RE: 2017 Inspections

In 2017 we had 40 detention basins.
1 to 2 inspections a year approximately as documented in the files
Approximately 40 hours in the field inspecting
Approximately 40 hours of office work.
Approximately 100 ldps were inspected
Approximately 1000 in the field inspecting ldps

I calculated this by figuring productive work hours in a year. 2080 minus federal holidays, minus 2 weeks pto =1900 "productive" hours.

That leaves 820 hours of miscellaneous inspections and office work.

Contact Us

100 N. 5th St.
Leavenworth, KS 66048
Get Directions

Phone: (913) 682-9201

6.5

Options available for residents to dispose of leaves

Public Information Office | Sept. 20, 2017

The City of Leavenworth will offer curbside leaf pick-up service to residents from Metropolitan Avenue to Spruce Street. This program is weather-dependent and begins Nov. 1. Residents from Eisenhower Street to Spruce Street who are not on the collection route can bag leaves for regular refuse collection or take leaves to the Brush Site at 1803 S. Second St. for free disposal.

Tips to placing leaves for pick-up:
- Residents should place the leaves as close to the street as possible, without covering the sidewalk. The piles must be free of materials such as branches. Please do not rake leaves into the street. Please do not block mailboxes.
- To provide the leaf collection equipment better access to the streets, residents are encouraged to rake leaves away from vehicles.
- Leaves placed in plastic bags or boxes will only be collected on trash day. Residents choosing to bag leaves need to have the bags on the curb no more than 24 hours before their scheduled refuse pick-up day. The bags of leaves will then be picked up with their trash by the Refuse workers as part of their normal weekly service.

Can I take leaves somewhere other than the curbside program?
Disposal of leaves and grass is available to residents free of charge at the Brush site, 1803 S. 2nd St. The site is open Tuesday through Saturday, 8:30 a.m. to 3:45 p.m. until the last day of November. Clippings at the brush site are used for making compost. The compost is available to residents free of charge at the brush site.

How to rake leaves to make them easier to pickup with our curbside leaf vehicles:

RIGHT: Resident dumping leaves for free at the brush site, 1803 S. 2nd.

November 1 – Grids 1 and 3 – Metropolitan to Spruce; 22nd St to 10th St

November 2 – Grids 2 and 4 – Metropolitan to Spruce; 10th to Esplanade

November 6 – Grid 1 – Metropolitan to Shawnee; 22nd St to 10th St

November 7 – Grid 2 – Metropolitan to Shawnee; 10th to Esplanade

November 8 – Grid 3 – Shawnee to Spruce; 22nd St to 10th St

November 9 – Grid 4 – Shawnee to Spruce; 10th to Esplanade

November 10 – HOLIDAY

November 13 – Grid 1 Metropolitan to Shawnee; 22nd St to 10th St

November 14 – Grid 2 Metropolitan to Shawnee; 10th to Esplanade

November 15 – Grid 3 Shawnee to Spruce; 22nd St to 10th St

November 16 – Grid 4 Shawnee to Spruce; 10th to Esplanade

November 27 – Grid 1 – Metropolitan to Shawnee; 22nd St to 10th St

November 28 – Grid 2 – Metropolitan to Shawnee; 10th to Esplanade

November 29 – Grid 3 – Shawnee to Spruce; 22nd St to 10th St

November 30 – Grid 4 – Shawnee to Esplanade

Leavenworth, Kansas

100 N. 5th St.
Leavenworth, KS 66048
(913) 682-9201

Colette Kiszka

ɔm: Melissa Bower
Sent: Monday, January 29, 2018 4:46 PM
To: Colette Kiszka
Subject: leaf pickup

The press release you have is the current one on the leaf pickup. I have a document view count of 2,210.

Melissa Bower, Public Information Officer
City of Leavenworth, Kansas
913-680-2610
melissab@firstcity.org
www.lvks.org
https://www.facebook.com/CityofLeavenworthKS/
https://twitter.com/LeavenworthKS

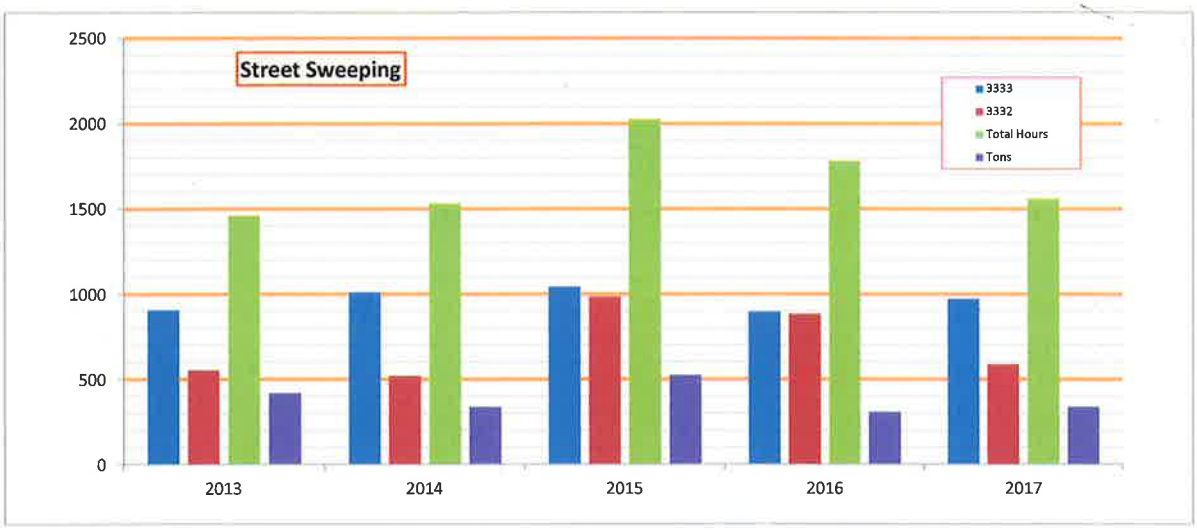
View videos of the Leavenworth City Commission at https://www.youtube.com/user/leavenworthkansas

6.2

City of Leavenworth
February 16, 2018

Street Sweeping				
	Hours			
	3333	3332	Total Hours	Tons
2013	907	555	1462	418.91
2014	1012	522	1534	338.28
2015	1043	985	2028	525.29
2016	896	886	1782	308.46
2017	972	589	1561	338

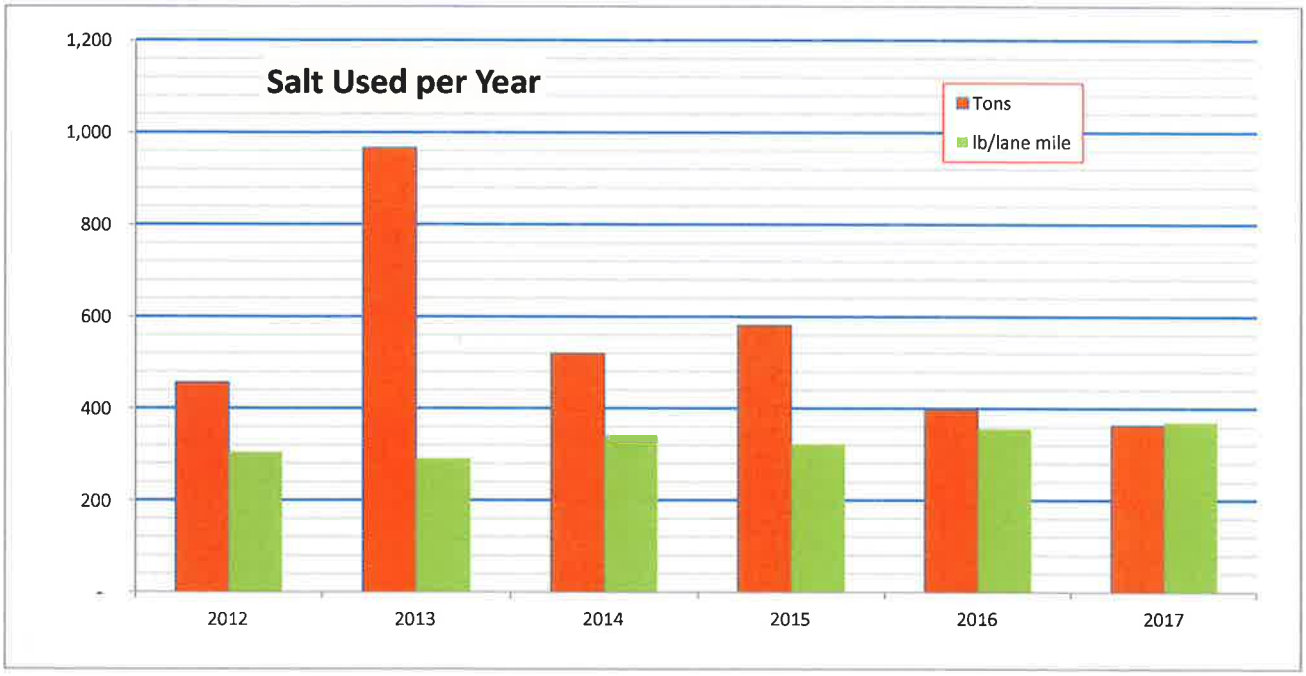
Cycles	City of LV Centerline Miles		Total Miles	Curb Miles
8	Residential	110.5	884	1,768
7	Coll/Arterial	45.2	316	633
		Year 2017	1,200	2,401



City of Leavenworth

February 1, 2018

Salt Used		
Year	Tons	lb/lane mile
2012	457	305
2013	967	291
2014	520	342
2015	582	323
2016	398	356
2017	364	370



City of Leavenworth
Leaf Pick-up (City Forces)
2/16/2018

6.5

Year	Loads
2009	184
2011(3)	28.5
2013	50
2014	24
2015	29.25
2016	75
2017	50

Note:

(1) City began a leaf collection program in 2008 with new equipment. All of the city was picked-up in 2008 and 2009. The program was changed to pick-up of only 1/2 of the city. Quantities were impacted by weather in 2014 and 2015.

(2) This chart shows loads. There was some inconsistency in early years of the program with how loads were determined.
(3) Records for 2010 - 2012 are incomplete

DATE	NO.	SUBJECT
		2017 STORMWATER POLICY REPORTS for the Leavenworth City Commission
02/07/17	17-08	Review Stormwater Management Plan (Program)
02/21/17	17-15	Review KDHE Annual Stormwater Report (draft report)
02/28/17	17-18	Approval KDHE Annual Stormwater Report
05/02/17	17-28	Stormwater Funding Review (with attachments)
06/06/17	17-33	Stormwater Funding Methodology
07/18/17	17-40	Stormwater Funding Methodology and Values (with selected attachments)
09/05/17	17-45	Review Stormwater Policy and Setting Public Meeting Dates (discussion of public information meetings)
11/21/17	17-58	Review Stormwater Policy and Fee Collection Methods
12/05/17	17-63	Review Stormwater Fees (with proposed fee spreadsheet)

POLICY REPORT PWD NO. 17-08

REVIEW DRAFT
STORMWATER MANAGEMENT PLAN

February 7, 2017

Prepared by:

Michael G. McDonald, P.E.,
Director of Public Works

Submitted by:

Paul Kramer
City Manager

ISSUE
Review Stormwater Management Plan.

BACKGROUND
The City of Leavenworth is a Phase II City for stormwater matters and is regulated by KDHE. The current Stormwater Management Plan (SMP) adopted by the City Commission on February 23, 2016 is attached to this report. The report outlines how the city intends to implement programs to protect water quality in the creeks and streams within the City, ultimately contributing to improved water quality of the Missouri and Mississippi Rivers.

The goals of the plan are to:

- Protect people and property from water quantity issues (flooding).
- Protect and improve water quality in the creeks and streams of Leavenworth.

The EPA and KDHE dictate the form of the SMP, particularly how the "Six Minimum Control Measures" should be addressed by the City (attached). These six measures are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff and Control
5. Post-Construction Stormwater Management in New Development and Redevelopment Projects
6. Pollution Prevention/Good Housekeeping for Municipal Operations

These control measures are addressed by "Best Management Practices" (BMP). This is a broad term that generally relates to an expectation by regulatory agencies that the City will be following good practices for a municipality of our size, such as design standards, permit requirements, record keeping, inspection staff and more.

A series of goals formulated as BMP's has been incorporated into the SMP. City staff has sought to meet the goals through a variety of programs over the last year. It is important to note that these activities will need to be tracked and are expected to be reported each year in the annual report submitted to KDHE.

This annual review of the Stormwater Management Plan is an opportunity for the City Commission and the public to comment on the activities and direction the city is taking to meet the various goals of the plan.

ATTACHMENT
Kansas Six Minimum Control Measures Fact Sheet
2016 City Stormwater Management Plan adopted February 23, 2016

POLICY REPORT PWD NO. 17-15

REVIEW KDHE ANNUAL STORMWATER REPORT FOR 2016

February 21, 2017

Prepared by:

Michael G. McDonald, P.E.,
Director of Public Works

Reviewed by:

Paul Kramer,
City Manager

ISSUE

Review rough draft and outline of Annual Stormwater Report for 2016

BACKGROUND

The City of Leavenworth is required by KDHE and EPA to submit an annual report each year by February 28th for activity in the prior calendar year. This is to review the status of the activities identified in the Stormwater Management Plan (SMP). The city adopted the current Stormwater Management Plan in 2016, and an overview of the plan was reviewed at the study session February 7th, 2017.

Staff has been compiling a variety of information to address each of the activities identified in the SMP. Key parts of the report are the narratives "Executive Summary" and "Section F – Record Keeping and Reporting" which are attached to this Policy Report in rough draft form. There are other portions of the draft report attached as well.

Staff is requesting comments and suggestions from the City Commission related to the content of the report. It is appropriate for the City Commission to seek input from the public on this matter as well.

The report is due at KDHE by February 28th via digital delivery. It is anticipated that the final report will be submitted to KDHE Tuesday evening February 28th after final review by the City Commission.

POLICY REPORT PWD NO. 17- 18

ADOPT A RESOLUTION APPROVING KDHE ANNUAL STORMWATER REPORT FOR 2016

February 28, 2017

Prepared by:

Michael G. McDonald, P.E.,
Director of Public Works

Reviewed by:

Paul Kramer,
City Manager

ISSUE

Consider adoption of a resolution approving the KDHE Annual Stormwater Report for 2016

BACKGROUND

The City of Leavenworth is required by KDHE and EPA to submit an annual report each year by February 28th for activity in the prior calendar year. This is to review the status of the activities identified in the Stormwater Management Plan (SMP). The city adopted the current Stormwater Management Plan in 2016.

The annual report was reviewed at study sessions on February 7 and February 21, 2017. Staff is completing the final version of the report which will be available on-line prior to the meeting for review.

The report is due at KDHE by February 28th via digital delivery. It is anticipated that the final report will be submitted to KDHE Tuesday evening February 28th after final review by the City Commission.

POLICY REPORT PWD NO. 17- 28

REVIEW OF STORMWATER PROGRAM POLICY
AND
FUNDING SOURCES

May 2, 2017

Prepared by:	Reviewed by:	Reviewed by:
Mike Hooper	Michael G. McDonald, P.E.,	Paul Kramer,
Deputy Director of Public Works	Director of Public Works	City Manager

ISSUE

Review of the Stormwater Program Policy

BACKGROUND

In 1994, the City Commission contracted with Black & Veatch to complete the City's Storm Drainage Master Plan. The process for drafting the plan included the establishment of a Citizen Storm Water Advisory Committee, distribution of citizen surveys, the review of legal and technical issues, evaluating the implementation of a stormwater system computer model, and the preparation of a Capital Stormwater Improvement Master Plan. The plan was accepted by the Commission in 1997.

A summary of the report recommendations are listed below;

- Evaluate the identified problems and recommendations in the water-shed subsystems outside the City boundaries.
- Consider more stringent zoning and flood plain restrictions into tributaries not delineated in the FEMA mapping and more City wide restrictive zoning and flood plain management.
- Analysis for the Three Mile and Five Mile Creek watersheds should be carried forward to preliminary design level analysis.
- The Public Works Department should increase the amount and frequency of maintenance of the stormwater maintenance system, especially the roadside ditches.
- The City should finalize and begin using the Drainage Criteria Manual and New Development Planning Manual, both were prepared for the Master Plan.
- Properly plan and develop the conveyance system and timing of improvements. The City should consider increasing its technical staff in engineering and GIS.
- Install a rainfall and stream flow monitoring system to establish peak run-off rates and flood elevations.
- Update the master plan every 5 to 10 years.
- Consider the implementation of a stormwater utility to fund capital improvements projects and the operation and maintenance of the drainage system.

Findings in the report have resulted in numerous improvements in the management of the City's storm water.

a. The Street Operations Division has been significantly more aggressive in the re-establishing of ditches and driveway tube maintenance, to include the ditching of non-curbed streets in conjunction with and prior to the asphalt overlay of the street in the pavement management program.

b. Staff now reviews all site grading plans for residential subdivisions, commercial, and industrial developments with an emphasis on drainage patterns, stormwater detention, water quality issues, and minimum building floor elevations.

c. FEMA maps were updated in 2015 and significant improvements have been undertaken along Three Mile Creek with the construction of;
   i. the Cherokee Bridge,
   ii. the Broadway Bridge,

iii. the Sixth Street Bridge,
iv. the 3 Mile Creek Trail,
v. the upcoming replacement of the Second Street Bridge.

d. Many locations identified in residential areas have been addressed throughout the years since the passing of the plan through normal maintenance and/or the replacement of infrastructure.

e. A GIS position and implemented a mapping and information system that rivals the quality of many larger cities.

f. Rainfall and stream flow monitoring systems have been installed in various locations throughout the City and are continually monitored to provide accurate data for current construction projects and planning of future projects.

The plan focused on capacity issues within the current stormwater system related to small and large scale flooding in the residential and commercial areas of the City. The focus of the EPA and KDHE now includes the overview of stormwater quality within the City system.

Funding and manpower needs relating to the maintenance/repair/replacement of the City's aging stormwater infrastructure were **NOT** addressed in the report. All replacement within the stormwater system must now include components to address water quality issues.

How does the City address the need for the additional maintenance and repair/ replacement of the storm water infrastructure that is 100 years old or older (stone or brick arches and clay tile pipe) or was installed using industry standard inferior products (corrugated metal pipe)?

The City incorporates approximately 102 miles of underground piping and open ditch and approximately 3300 drainage structures in the system. Approximately 18 miles of stormwater infrastructure of various sizes consists of brick and/or stone arches, corrugated metal pipe, and vitrified clay tile pipe. All of the arch structures (stone or brick) are either approaching or are older than 100 years old. Repair/replacement costs vary significantly for the infrastructure based on type, location, depth, replacement material, and contractor work load.

The Plan accepted in 1997 looked at two types of options for assessing a stormwater utility/fee.

- Option 1 - would use the area of impermeable surface on a tract or lot and charge the fee based on a specific cost per square foot of the calculated impermeable surface.

  $$ per square foot x area (sq. ft.) of impermeable surface = stormwater fee to be assessed

- Option 2 - a flat rate fee based on the zoning of the property, ie. Residential, Commercial, Industrial

- (Residential)Flat Rate Fee x # of dwelling units (or number of water meters) = stormwater fee to be assessed

STORMWATER MANAGEMENT

May 2, 2017

Stormwater System Inventory

Stormwater Pipe	(Feet)	(Miles)
CMP/DIP/Steel	66,783	12.65
Brick/Stone	10,133	1.92
Vitrified Clay Pipe	19,110	3.62
PVC/ADS/HDPE	6,286	1.19
RCB	8,752	1.66
RCP	183,985	34.85
Open Channel	241,673	45.78
TOTALS	**536,722**	**101.66**

Stormwater System Inventory

Drainage Structures	# of Units
Area Drains	**665**
Curb inlets	**2,271**
Junction Boxes	**363**

PIPE LIFE EXPECTANCY

Stormwater Pipe	Avg.Life Span	Age
CMP/DIP/Steel	10-30 yrs.	25-50 yrs.
Brick/Stone	50-60 yrs.	75-100 yrs.
Vitrified Clay Pipe	75-100 yrs.	60-100 yrs.
PVC/ADS/HDPE	75-100 yrs.	5-40 yrs.
RCB	75-100 yrs.	5-50 yrs.
RCP	75-100 yrs.	5-50 yrs.

AVERAGE REPAIR/REPLACEMENT COSTS

Type	Lineal Feet (in-ground)	Estimated Cost (avg) (per foot)	Repair/Replacement Cost
Brick/Stone	10,133	$2,500.00	$25,332,500.00
CMP	66,783	$500.00	$33,391,500.00
VCP	19,110	$350.00	$6,688,500.00
Curb Inlets (30% of 3300)	990	$5,500.00	$5,445,000.00
			$70,857,500.00

FAILURE REPAIRS – LAST 5 YEARS

- 4TH & Poplar – failed stone arch $47,310.00
- Marion St. - failed stone arch $65,185.00
- Ottawa St. – failed stone arch $175,600.00
- 2nd & Chestnut – failed stone arch $50,120.00
- 22nd & Vilas – failed CMP 7 & ditch $251,000.00
- Ottawa St. Drainage (SEP Project) $335,772.00
- Misc. Storm Repairs – 5 locations $172,876.00
- Misc. Storm Repairs – 7 locations $67,804.00

$1,107,647.00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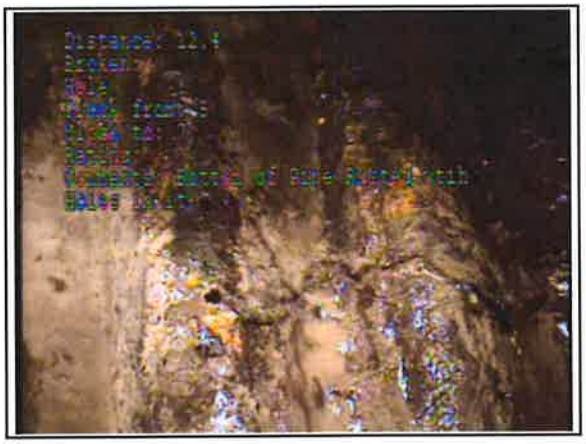


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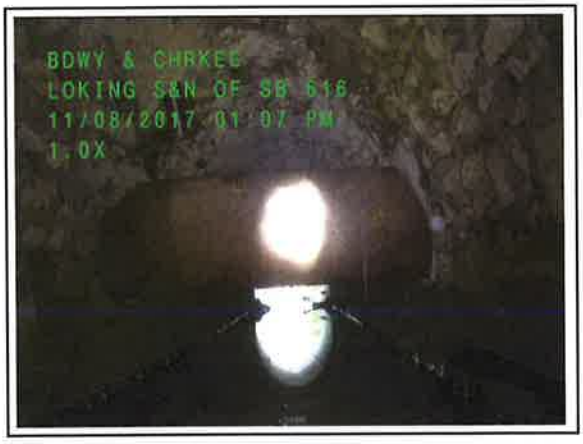
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Distance: 158.7
End Inspection:
Clock from: 3
Clock to: 6
Rating:
Comments:
storm line


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POLICY REPORT PWD NO. 17- 33
REVIEW OF STORMWATER PROGRAM POLICY
AND FUNDING SOURCES
June 6, 2017

Prepared by:

Mike Hooper
Deputy Director of Public Works

Reviewed by:

Michael G. McDonald, P.E.,
Director of Public Works

Reviewed by:

Paul Kramer,
City Manager

ISSUE

Continued review of funding structure for Stormwater Program Policy

BACKGROUND

The discussion at the May 2, 2017 Study Session identified several options for calculating a stormwater funding source to address the $40-$70 million backlog of repairs and replacement. This included options presented in the 1997 Storm Drainage Master Plan and an overview of some of the most challenging problems in the stormwater system.

Staff has reviewed the stormwater fees from numerous Kansas cities over the past month. They range from a simple monthly fee (one for residential and one for non-residential) to a little more complex with the inclusion of a multiplier based commonly on something called an "Equivalent Residential Unit" (ERU) rate. An ERU is the area of impervious surface on an average single family residential property, and is generally seen as a constant value across the community.

The ERU value will vary by community, for example:

- City of Lawrence ERU 2366 sq. ft.
- City of Topeka ERU 2018 sq. ft.
- City of Ottawa ERU 2600 sq. ft.

**There is currently no ERU calculation for the City of Leavenworth*

Some representative calculations for the range of possibilities employed by communities are shown below.

1. Simple, set rate formula

Assess as a fee on property tax statement or monthly billing (Bonner Springs)		
Residential	$3.00 per month	$36.00 annually
Non-Residential	$5.50 per month	$66.00 annually

This method is the easiest to implement and differentiates between residential and non-residential uses. However, it lacks the ability to differentiate between large and small non-residential uses, which would reduce the simplicity of the billing process.

2. Set rate, with non-residential multiplier

Collects fees monthly on the water/sewer bill or some variation (Atchison, Topeka, Hays, Hutchison use variations on this method)	
Single Family $4.00 per month	$48.00 annually
Multi-family, Commercial, Industrial	$4.00 per month per ERU

This method differentiates between single-family in one class and multi-family residential, commercial, and industrial in another class. However, it lacks the ability to differentiate between multi-family and commercial or industrial users (similar concerns exist in Bonner Springs).

3. Complex calculation including ERUs, impermeable surface calculation, etc.

Lawrence collects fees as an assessment on the property tax statement		
Total impervious surface is not known for every residential property; therefore the number of ERUs is based on building footprints as follows:		
Single Family Footprint (building sq. ft.)	ERU	Monthly Charge
Up to 1,000	.67	$2.76
1,001 to 1,800	1.00	$4.12
1,801 to 3,000	1.25	$5.15
3,001 to 4,800	1.80	$7.42
4,800 +	2.50	$10.30
Commercial, Industrial (total area of impervious surface)		$4.12 per month per ERU

This method creates different billing amounts for the different sizes of residences throughout the city by using the multiplier of the ERU. The use of the actual impervious surface area of the commercial and industrial properties allows the City to differentiate between large and small non-residential uses. However, it does not separate multi-family from a commercial use. The complex calculations are only performed once per year for the property tax billing.

SUMMARY

There are advantages and disadvantages related to each of these methods, including ease of billing, equity between large and small lots, equity between residential properties and commercial/industrial properties, fees related to vacant lots, and similar.

All cities reviewed included assessing fees on tax-exempt properties (i.e., federal, state, school district, and religious properties) in the program. In general, undeveloped land was excluded until such time as occupancy certificates were issued for new structures and/or impervious improvements were constructed.

POLICY REPORT PWD NO. 17- 40
REVIEW OF STORMWATER PROGRAM POLICY
AND FUNDING SOURCES
July 18, 2017

Prepared by:	Reviewed by:	Reviewed by:
Mike Hooper Deputy Director of Public Works	Michael G. McDonald, P.E., Director of Public Works	Paul Kramer, City Manager

ISSUE

Continued review of funding structure for Stormwater Program Policy

BACKGROUND

The discussion at the June 6, 2017 Study Session, reviewed the stormwater fees from numerous Kansas cities. The fee structures ranged from a simple monthly fee (one for residential and one for non-residential) to a little more complex with the inclusion of a multiplier based commonly on a value called an "Equivalent Residential Unit" (ERU) rate.

The discussion and guidance focused on a methodology that was both simple and fair to the residences and businesses in the City. The method of collecting the fee was also reviewed with the Commission.

COLLECTION OPTIONS

1. Staff has had discussions with water department personnel regarding the practice of collecting the fee on the monthly water department billing as is currently done with the trash and sewer charges. It is anticipated that only properties with water meters or refuse service billed by waterworks would be receiving a bill. A number of items and issues associated with using waterworks were identified. They are listed below;

    - The water department is implementing a new internet billing system. *(Any impact to the billing procedure and any additional costs to the City is unknown at this time)*

    - The water department will charge an account set-up fee of $15,000 - $20,000 to set up the billing accounts for stormwater and they will also charge a monthly fee in the approximate amount of five percent of monthly revenue (in addition to the fees charged to collect refuse and sewer bills). The set-up work being done by the water department personnel will take approximately four to six months to complete.

    - Income from the fee would be received on a monthly basis. It is expected that failure to pay the fee would be handled by the waterworks through shut-off of the water meter, although that has been in question in the past.

    - The burden of the fee payment would be on the resident, who possibly is not the property owner.

2. The other option discussed for collecting the fee is to place it as a fee on the annual property tax statement which is mailed to the OWNER of any property that has a building. Important details of this method are presented below:

- Fee Collection could be implemented starting January 1, 2018 provided all fees or assessments are certified to the county clerk by the 2nd week in August for inclusion on the December tax statements.

- Income from the fee would be received by the City twice a year. There are no collection fees associated with adding this fee, and failure to pay the fee is handled as a failure to pay taxes by the county.

- This method places the burden of paying the fee on the property owner who may or may not be the resident at that address.

FEE STRUCTURE

In the effort to identify a fee structure that is fair and equitable to the City's citizens and businesses, staff has developed the revenue estimates identified in the spreadsheets on the additional pages of this report. Several broad categories were selected to provide simplicity in application of the fees as expressed by the Commission. The revenue estimates are divided in the categories shown below. Commercial and Industrial fees are based on the square footage of building as shown in the City of Leavenworth GIS.

These categories are applicable to collection of the fee by both waterworks and Leavenworth County.

- **Single Family** *(per housing unit)*

- **Duplex/Multi-family**
  *(each housing unit would be billed for the fee, ** example – duplex, 2 housing units x the fee, four-plex, 4 housing units x the fee, six-plex, 6 housing units x the fee, etc.)*

- **Commercial**
  - Units less than 1500 sq. ft. of building footprint *(most downtown businesses)*
  - Units 1500 – 4500 sq. ft. of building footprint
  - Units greater than 4500 sq. ft. of building footprint *(auto dealerships & large box stores)*

- **Industrial**
  - Units less than 6500 sq. ft. of building footprint
  - Units greater than 6500 sq. ft. of building footprint

This method creates different fee structures for housing units (single family & multi-family) vs. the building footprint square footage (commercial & industrial structures).

MANAGEMENT PROGRAM

The implementation of the stormwater fee will require the adoption of a Comprehensive Stormwater Management Program. Attached for review is a draft document outlining the program. The document identifies five program goal activities. The five activities are:

- Address flood problems with drainage improvement projects to reduce the occurrence of property flood damage.

- Review, enact, and enforce ordinances, policies, and design criteria as necessary to manage the floodplain and prevent future flooding.

- Perform routine maintenance of the City's storm drainage system to maintain its intended capacity and condition.

- Enhance water quality to preserve the natural environment while maintaining compliance with the City's Kansas Water Pollution Control Permit

- Provide adequate funding for the Comprehensive Stormwater Management Program.

The implementation of the program will require additional staff to include a project coordinator and additional equipment for the current staff. We anticipate the following activities to occur if the fees are adopted.

1. Within six months after initiation of the fee, the hiring of a project coordinator to facilitate the Stormwater Management Program.

2. Priority ONE beginning at the initiation of the program would be to address the growing list of resident calls who have identified stormwater system issues and orange fence on their properties. (*These locations can be addressed fairly expeditiously through the use of consultants and outside contractors once the funding is established.)*

3. Beginning within eighteen months after implementation, staff anticipates the following additional programs to be under development:

    - **Curb Inlet Replacement Program.** *This would address the failing brick & concrete block curb inlets throughout the City. Most projects can be completed using city staff, although a sufficiently large number of locations will require use of a contractor to complete the work.*

    - **Corrugated Metal Pipe (CMP) Program.** *Identify and prioritize repair of CMP*

        - ***Lining Program*** *– where dig and replace is not an option or recommended due to pipe condition, depth, and/or location. Projects of this type would be completed by outside contractors.*

        - **Replacement Program.** *This would address the corrugated metal pipe that is in an advanced state of deterioration where lining would not be feasible. Projects of this type would be completed by outside contractors.*

    - **Brick & Stone Arch Replacement Program.** *This would be a proactive program that will address the numerous very old street crossings and drainage structures throughout the City. Projects of this type would be completed by outside contractors.*

    - **Stream Bank & Streamway Resoration Program.** *This would be a proactive program that will address the removal of the brush and trees that are growing along the stream that inhibit the efficient flow of stormwater during peak flow events. Projects of this type would be completed by, city staff, inmate workforce, and outside contractors.*

4. Project priority sheets will be reviewed with the City Manager. It is anticipated that most projects can be addressed within the funding stream created from the fees. Larger or high priority projects may need to compete for CIP funds.

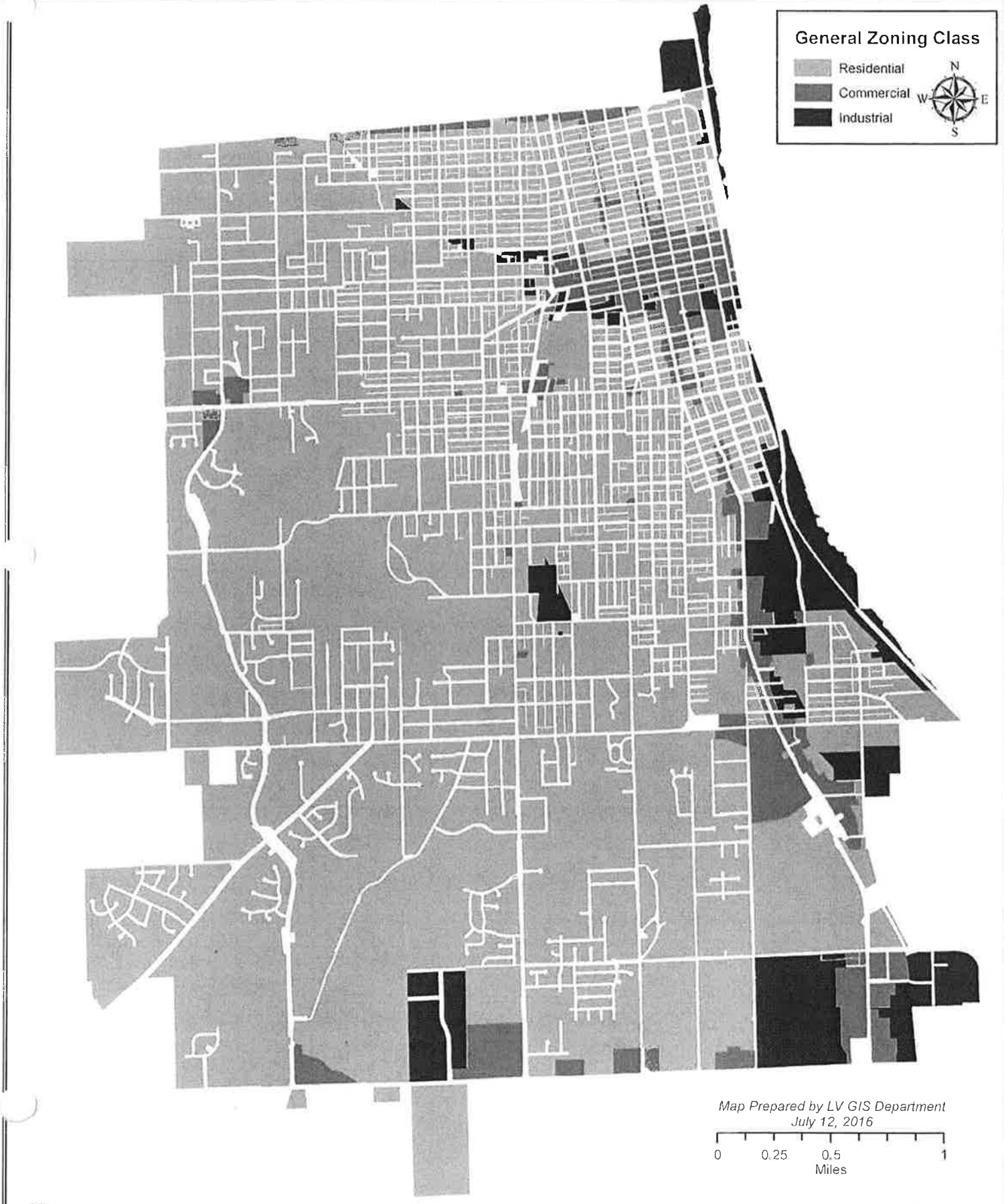
ATTACHMENTS

Sample Fee Structure
Draft Stormwater Management Program
Stormwater Fee Zoning Map

Zoning Type	Unit Monthly Fee	Unit Annual Fee	Annual Revenue	Unit Monthly Fee	Unit Annual Fee	Annual Revenue	Unit Monthly Fee	Unit Annual Fee	Annual Revenue	Unit Monthly Fee	Unit Annual Fee	Annual Revenue	Unit Monthly Fee	Unit Annual Fee	Annual Revenue
Single Family															
10,710 Units	**$3.00**	**$36.00**	$385,560.00	**$3.00**	**$36.00**	$385,560.00	**$4.00**	**$48.00**	$514,080.00	**$4.00**	**$48.00**	$514,080.00		**$0.00**	$0.00
Duples/Multi-Family															
1,225 Units	**$3.00**	**$36.00**	$44,100.00	**$4.00**	**$48.00**	$58,800.00	**$4.00**	**$48.00**	$58,800.00	**$4.00**	**$48.00**	$58,800.00		**$0.00**	$0.00
Commercial															
Total Avg - 6,000 sq. ft.															
CBD Avg - 1,000 sq.ft.															
222 Units < 1500	**$10.00**	**$120.00**	$26,640.00	**$10.00**	**$120.00**	$26,640.00	**$10.00**	**$120.00**	$26,640.00	**$10.00**	**$120.00**	$26,640.00		**$0.00**	$0.00
208 Units 1500 - 4500	**$25.00**	**$300.00**	$62,400.00	**$25.00**	**$300.00**	$62,400.00	**$25.00**	**$300.00**	$62,400.00	**$30.00**	**$360.00**	$74,880.00		**$0.00**	$0.00
185 Units > 4500	**$40.00**	**$480.00**	$88,800.00	**$40.00**	**$480.00**	$88,800.00	**$40.00**	**$480.00**	$88,800.00	**$50.00**	**$600.00**	$111,000.00		**$0.00**	$0.00
			$177,840.00			**$177,840.00**			**$177,840.00**			**$212,520.00**			**$0.00**
Industrial															
270 Units < 6500	**$150.00**	**$1,800.00**	$486,000.00	**$150.00**	**$1,800.00**	$486,000.00	**$150.00**	**$1,800.00**	$486,000.00	**$150.00**	**$1,800.00**	$486,000.00		**$0.00**	$0.00
48 Units > 6500	**$250.00**	**$3,000.00**	$144,000.00	**$250.00**	**$3,000.00**	$144,000.00	**$250.00**	**$3,000.00**	$144,000.00	**$250.00**	**$3,000.00**	$144,000.00		**$0.00**	$0.00
			$630,000.00			**$630,000.00**			**$630,000.00**			**$630,000.00**			**$0.00**
			$1,415,340.00			**$1,430,040.00**			**$1,558,560.00**			**$1,627,920.00**			**$0.00**

Water Department set-up fee - $15,000 00 - $20, 000.00 ($1.68 per month on the residential) + a monthly charge for the billing.

Stormwater Fee Classification Map



POLICY REPORT PWD NO. 17- 45
REVIEW OF STORMWATER PROGRAM AND
SETTING PUBLIC INFORMATION MEETING DATES
September 5, 2017

Prepared by:	Reviewed by:	Reviewed by:
Mike Hooper Deputy Director of Public Works	Michael G. McDonald, P.E., Director of Public Works	Paul Kramer, City Manager

ISSUE

Continued review of the proposed Stormwater Program and setting dates for "Public Information Meetings".

BACKGROUND

The City Commission had discussions related to the proposed Stormwater Program at the study sessions on May 2nd, June 6th, and July 13th. The information reviewed at those meetings included:

- A review of the status of the recommendations identified in the Capital Stormwater Improvement Master Plan adopted by the Commission in 1997.
- A review of the completed tasks and projects identified in the 1997 Master Plan.
- A review of the items **NOT** addressed in the 1997 Master Plan report including:
  - Costs for Maintenance/repair/replacement of the aging system.
  - Requiring water quality components of new improvements.
  - Additional staff related to an expanded stormwater program.
- A presentation on the general type and number of stormwater system failures or concerns.
- Summary of several cities that have a Stormwater Fee in place, including the fee amount and the methods of fee collections.
- A review of the possible fee structure and collection options for the City of Leavenworth.
- A highlight of the proposed program goals and priorities.
- A review of the proposed fee structure and revenues raised for the program.

It was suggested that the next step in the process related to creating this fee is to hold "Public Information Meetings" to obtain input from citizens and businesses throughout the City. Staff is proposing there be two meetings, and that one of the following dates for each the public meetings be identified. The meetings can be held at the Community Center, Library, or Fire Station No. 1.

1. Late September Dates (First Meeting)
   Thursday, September 28
   Wednesday, October 4
   Thursday, October 5

2. Late October Dates (Second Meeting)
   Thursday, October 26
   Wednesday, November 1
   Thursday, November 2

RECOMMENDATION

Staff is recommending the selection of one (1) date from the Late September list and one (1) date from the Late October list.

POLICY REPORT PWD NO. 17- 58
REVIEW OF STORMWATER PROGRAM AND
FEE COLLECTION METHODS
November 21, 2017

Prepared by:	Reviewed by:	Reviewed by:
Mike Hooper Deputy Director of Public Works	Michael G. McDonald, P.E., Director of Public Works	Paul Kramer, City Manager

ISSUE:
The continued review of the proposed Stormwater Program and the stormwater fee collection methods.

BACKGROUND:
The City Commission had discussions related to the proposed Stormwater Program at the study sessions on May 2nd, June 6th, July 13th, and September 5th to discuss issues with the City stormwater system, stormwater programs in other cities, fee structures, and collection methods. (See attached policy reports). On September 28th and October 26th staff conducted Public Information Meetings to obtain input from citizens regarding the program and preferences for fee collection.

The public meetings had 15 residents and a Boy Scout Troop of 7 members attend with the return of 10 surveys and 1 verbal response. The results of the survey are as follows;

Option 1 – Incorporate the fee into the annual property tax statement – 5

Option 2 – Add fee to the monthly water bill – 5

1 survey asked if the fee could be collected by both methods.

1 survey suggested funding the program out of current operations over the next 10 – 15 years making it an annual program and diverting sidewalk funds to the program for use to mitigate critical failures.

Collection of the stormwater fee can be accomplished in two (2) methods. All have their advantages and disadvantages. Following is a review of the methods:

Water Department Billing (resident would pay the fee, possibly not the property owner)

- Every residence, commercial, or industrial structure with an **active** water meter would be billed the appropriate fee.
- The water department has an average inactive meter count of 5% per month. (67% are residential meters – 450 units)
- The fee would be collected from tax-exempt properties.
- All properties would pay on a monthly basis with their water bill.
- Income from the fee would be paid to the City on a monthly basis.
- A set-up fee **($15,000 - $25,000)** and monthly collection fee would be charged to the City for the collection of the stormwater fee. **(Collection fee is currently approximately 5% of revenue)**
- The water department will not shut off water service if the stormwater fee is not paid.
- The water department will not pass through billing to the property owner if the water meter is inactive. (No fee would be collected on an inactive meter)

Annual Property Tax (property owner would pay the fee)

- Every property with a structure would be billed the appropriate fee.
- The fee would be collected from tax-exempt properties.
- Property owners will pay through their property tax statement. Failure to pay would result in delinquent property taxes.
- Fee would be identified in the same manner as the solid waste fee imposed by the county.
- Income from the fee would be paid to the City five times per year. (Majority of the revenue would be collected in January and June.)
- Fee would be charged to the property whether occupied or not.
- No fee would be charged to the City for the set up or collection of the fee.
- Delinquent tax rate is currently under 2%.

ACTION:

Staff requests the City Commission select and move forward with a collection method. Following the selection, staff will bring forward funding-level options.

ATTACHMENTS:

Policy Report 17-45
Policy Report 17-40
Policy Report 17-33
Policy Report 17-28

POLICY REPORT PWD NO. 17- 63
REVIEW OF STORMWATER PROGRAM AND
ANNUAL FEE
December 5, 2017

Prepared by:	Reviewed by:	Reviewed by:
Mike Hooper Deputy Director of Public Works	Michael G. McDonald, P.E., Director of Public Works	Paul Kramer, City Manager

ISSUE:
The continued review of the proposed Stormwater Program and the proposed stormwater fee.

BACKGROUND:
The City Commission had discussions related to the proposed Stormwater Program at the study sessions on May 2nd, June 6th, July 13th, September 5th and November 21st to discuss issues with the City stormwater system, stormwater programs in other cities, fee structures, and collection methods. On November 21st the Commission provided a consensus that placing the stormwater fee on the county tax statement was the preferred method of fee collection.

Staff has sought to create a simple methodology to assign the fee to. All properties in the following general categories with a structure would be billed for the fee.

- Residential Zones
- Commercial Zones
- Industrial Zones

During the process of establishing fee estimates, staff determined some inequities in the fee structure that was reviewed at the July 18, 2017 Commission Meeting (see attached policy report). It is assumed that the impact of the zoning class upon stormwater quantity and quality is increasingly higher as the zoning moves from residential to commercial and industrial. To address some of the inequities the proposed fee structure has added two (2) additional categories under the commercial classification and one (1) additional category under the industrial classification.

The recommended breakdown of property sizes for fee assignments is as follows:

Residential
1. Single Family
2. Duplex/Multi-Family

Commercial
1. Bldgs. 1,500 sq. ft. or less (most downtown businesses)
2. Bldgs. 1,501 to 4,500 sq. ft.
3. Bldgs. 4,501 to 10,000 sq. ft.
4. Bldgs. 10,000 sq. ft. and larger

Industrial
1. Bldgs. 4,500 sq. ft. or less
2. Bldgs. 4,501 to 9,000 sq. ft.
3. Bldgs. 9,000 sq. ft. and larger

The attached spreadsheet identifies possible fees for each type/size of structure class in each of the zoning classifications. The current GIS system has been used to create the number of properties with a structure in each category.

The 20-year, 30-year, and 40-year programs are based on the necessary annual funds required to complete the estimated $83M dollars of repairs during that specific period. The selection of a planning period is a subjective task, and should be considered more as a guideline toward the effort involved and cost associated with the program. It is to be expected that changes will occur throughout the program that will have an impact on progress. These include:

- Regulatory changes
- Construction methods
- New types and styles of defects develop
- Shifting priorities for focus of the program.

The following are several clarifications that have been inquired about:

1. Properties zoned commercial with both commercial and residential uses (many downtown buildings) will be assigned the Commercial fee.
2. Properties zoned commercial with only residential uses (such as single homes or apartment complexes) will be assigned the appropriate number of residential fees.
3. Industrial and Commercial properties with multiple buildings and/or large parking surfaces are assigned the appropriate single building fee for the lot size.
4. Properties with parking only will not be charged a fee.

ACTION:
Staff requests the City Commission select and move forward with a fee structure.

ATTACHMENTS:
Policy Report 17 – 40
Fee Spreadsheet

Zoning Type	Unit Annual Fee	Annual Revenue	Unit Annual Fee	Annual Revenue	Unit Annual Fee	Annual Revenue	Unit Annual Fee	Annual Revenue	Unit Annual Fee	Annual Revenue
Single Family										
8,829 Units	**$60.00**	$529,740.00	**$75.00**	$662,175.00	**$125.00**	$1,103,625.00	**$190.00**	$1,677,510.00	**$270.00**	$2,383,830.00
Duples/Multi-Family										
895 Units	**$60.00**	$53,700.00	**$75.00**	$67,125.00	**$125.00**	$111,875.00	**$190.00**	$170,050.00	**$270.00**	$241,650.00
		$583,440.00		**$729,300.00**		**$1,215,500.00**		**$1,847,560.00**		**$2,625,480.00**
Commercial										
Total Avg - 6,000 sq. ft.										
CBD Avg - 1,000 sq.ft.										
45 Units < 1500	**$250.00**	$11,250.00	**$325.00**	$14,625.00	**$400.00**	$18,000.00	**$500.00**	$22,500.00	**$1,000.00**	$45,000.00
210 Units 1501 - 4500	**$600.00**	$126,000.00	**$675.00**	$141,750.00	**$750.00**	$157,500.00	**$850.00**	$178,500.00	**$1,700.00**	$357,000.00
118 Units 4501 - 10,000	**$975.00**	$115,050.00	**$1,050.00**	$123,900.00	**$1,100.00**	$129,800.00	**$1,200.00**	$141,600.00	**$2,400.00**	$283,200.00
88 Units > 10,000	**$1,300.00**	$114,400.00	**$1,375.00**	$121,000.00	**$1,450.00**	$127,600.00	**$1,550.00**	$136,400.00	**$3,100.00**	$272,800.00
		$366,700.00		**$401,275.00**		**$432,900.00**		**$479,000.00**		**$958,000.00**
Industrial										
33 Units < 4500	**$1,500.00**	$49,500.00	**$2,000.00**	$66,000.00	**$4,250.00**	$140,250.00	**$4,350.00**	$143,550.00	**$5,000.00**	$165,000.00
16 Units 4501 - 9000	**$3,000.00**	$48,000.00	**$4,000.00**	$64,000.00	**$5,450.00**	$87,200.00	**$5,550.00**	$88,800.00	**$7,000.00**	$112,000.00
35 Units > 9000	**$4,500.00**	$157,500.00	**$6,000.00**	$210,000.00	**$6,650.00**	$232,750.00	**$6,750.00**	$236,250.00	**$9,000.00**	$315,000.00
		$255,000.00		**$340,000.00**		**$460,200.00**		**$468,600.00**		**$592,000.00**
		$1,205,140.00		$1,470,575.00		$2,108,600.00		$2,795,160.00		$4,175,480.00

40 year program	30 year program	20 year program
$2,087,044.00	$2,782,725.00	$4,174,088.00

Appendix E
Stormwater Management Program

Ordinance Changes in 2017

- Stormwater Management Program – adopted February 23, 2016 (no changes)
- Resolution No. B-2165 – February 28th, 2017 Approving 2016 KDHE Annual Stormwater Report which includes the Stormwater Management Program
- Ordinance 8021 Adopted December 20, 2016 (previously submitted in 2016 report) approving the Stormwater Program

RESOLUTION NO. B-2165

BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF LEAVENWORTH, KANSAS, AS FOLLOWS:

SECTION 1: The 2016 Annual Report for Stormwater reflects the direction, efforts and accomplishments by City of Leavenworth for calendar year 2016. It shall be an official record of these actions to meet the requirements of KDHE for an Annual Report until or unless changed by official action.

PASSED AND APPROVED THIS 28th DAY OF FEBRUARY, 2017.

SEAL OF THE CITY OF LEAVENWORTH CORPORATE SEAL KANSAS

Nancy D. Bauder, Mayor

ATTEST:

Carla K. Williamson, CMC, City Clerk

RESOLUTION NO. B-2132

BE IT RESOLVED BY THE LEAVENWORTH CITY COMMISSION OF THE CITY OF LEAVENWORTH, KANSAS, AS FOLLOWS:

SECTION 1:

The 2016 Stormwater Management Program shall become the official guiding authority for actions by the Leavenworth City Commission and its staff until or unless changed by official action.

PASSED AND APPROVED THIS 23rd DAY OF FEBRUARY, 2016.

Larry Dedeke, Mayor

ATTEST:

Carla K. Williamson, CMC, City Clerk

SEAL OF THE CITY OF LEAVENWORTH CORPORATE SEAL KANSAS

City of Leavenworth
Stormwater Management Program

Adopted by the City Commission February 23, 2016

City of Leavenworth
Stormwater Management Program

February 2016

Program History

The City of Leavenworth was established in the 1850's along Three-Mile Creek and on the banks of the Missouri River. Since that time the City has grown to include most of the Three-Mile Creek and Five-Mile Creek watersheds.

There has been a history of flooding since the founding of the city, with notable examples in the attached Appendix. The most recent dramatic example was in October 2005 where an estimated eleven inches of rain fell in a four hour period, causing significant property damage throughout the community. On July 6, 2015 over three inches fell in a one hour period also causing significant damage.

It is understandable that the city focused efforts since at least the 1980's to improve stream capacity to reduce flooding. Key improvements include:

- Replaced Major Bridges (at least 8)
- Channel Improvements on Three-Mile Creek between Missouri River and Broadway
- Stormwater Master Plan (1997)
- FEMA Floodplain Revisions on Three-Mile Creek (2014 and 2015)
- Approved Sales Tax with dedicated stormwater funding (1995, 2005,2015)

During the late 1980's the Environmental Protection Agency (EPA) determined that stormwater discharges from urban areas were having a negative impact on the nation's waterways. In the 1990s Congress expanded Clean Water Act authority to regulate municipal stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). Phase I regulations were implemented in 1990 for large municipalities and Phase II regulations were implemented in 1999 for smaller municipalities such as Leavenworth

The City of Leavenworth received its first NPDES stormwater permit from the Kansas Department of Health and Environment (KDHE) in 2004, along with 58 other regulated entities. All regulated Phase II entities have the same six minimum requirements:

1. Public outreach and education
2. Public involvement
3. Municipal pollution prevention
4. Construction site stormwater control
5. Illicit discharge detection and elimination
6. Post construction stormwater control.

A new NPDES permit was issued to City of Leavenworth in 2014 which includes the same six minimum control measures, along with additional requirements for water quality testing and an updating of the Stormwater Management Program

Stormwater Program Goals

The stormwater program of the city has two goals:

- Protect people and property from flood events
- Protect and enhance water quality

The city works to meet these goals by having a qualified staff and appropriate standards for design and construction of improvements.

Staff

The Public Works Department staff includes engineers, inspectors, technicians, GIS mappers and project managers that review plans for all projects. The Community Development Department reviews plans for compliance with zoning ordinances

The Street Division has significant staffing and equipment resources to assist in addressing stormwater matters that may occur, and there are two full-time stormwater employees who inspect, evaluate, clean and perform small repairs on existing stormwater infrastructure. The Community Development Department has two full-time inspectors to evaluate zoning matters within the city including stormwater concerns. Employees of Water Pollution Control (wastewater) perform the measuring and testing work required.

Program Tools

The City uses a variety of tools to assist in the evaluation and management of stormwater issues including:

1. Stormwater Master Plan (1997) by Black & Veatch)
2. Stormwater Design Guidelines (March 2015)
3. American Public Works Association Section 5600 as a guideline (2011)
4. MARC/APWA BMP Manual as a Guideline (2012)
5. Floodplain Management (20103CV000B, July 2015)
6. Requiring a "Land Disturbance Permit" for most construction activity (March 2015)
7. Various City Ordinances
8. Submit Annual Report to KDHE after review by City Commission

Stormwater Management Program Implementation

City Staff has created goals related to the six minimum control measures in an effort to meet the needs of the community and comply with the NPDES requirements. These are shown in the attached pages.

Please do not hesitate to contact the Office of the City Engineer should you have any questions regarding this program

Michael G. McDonald
City Engineer
Public Works Director
City Hall
100 N Fifth Street
Leavenworth, KS
mmcdonald@firstcity.org
913-684-0375

Attachments

- FEMA Narrative on Flood events from FIS 20103CV000B
- Stormwater Management Program Goals

Stormwater Management Program BMP List
February 23, 2016

Minimum Control Measure #1 - Public Education and Outreach

BMP	Measure	Responsibility	Schedule (Permit Year)
Web Page link to stormwater infrastructure information – Master Plan, Management Plan, Map	# of visitors	Leavenworth	1,2,3,4,5
Place documents in Public Library stormwater infrastructure information – Master Plan, Management Plan, Map	# Check-out requests	Leavenworth	1,2,3,4,5
Include articles or stories related to stormwater in city newsletter in at least two issues per year	# Articles/Stories # Issues	Leavenworth	1,2,3,4,5
City generated posts on social media related to stormwater issues at least ten occurrences per year	# Posts	Leavenworth	1,2,3,4,5
Provide information to Citizens regarding the City of Leavenworth Solid Waste Division.	Distribute trash bags to citizens with proper disposal handout	Leavenworth	1,2,3,4,5
Show Stormwater Information on Local cable TV Station	Broadcast community forums, in which continued water quality discussions take place	Leavenworth	1,2,3,4,5

Stormwater Management Program BMP List
February 23, 2016

Minimum Control Measure #2 - Public Participation and Involvement

BMP	Measure	Responsibility	Schedule (Permit Year)
Hold Public Information Meetings Regarding Stormwater Issues	Annual review by City Commission of Stormwater Annual Report Review of Stormwater projects in annual Capital Improvement Plan	Leavenworth	1,2,3,4,5
Create an "Adopt a Stream Program"	# Streams Adopted # Streams Cleaned	Leavenworth	1,2,3,4,5
Improve Lines of Communication with the Public through use of website and social media	Integrate contemporary methods of providing and receiving information to the Public.	Leavenworth	1,2,3,4,5
Annual City-Wide Clean-up Program	# Groups # Participants	Leavenworth	1,2,3,4,5
Customer Surveys – conduct at least one survey each year on stormwater related issues in an on-line environment	# of responses	Leavenworth	1,2,3,4,5
Encourage groups to participate in activities such as inlet stencil program and similar	# groups # programs	Leavenworth	1,2,3,4,5

Stormwater Management Program BMP List
February 23, 2016

Minimum Control Measure #3 - Illicit Discharge Detection and Elimination (IDDE)

BMP	Measure	Responsibility	Schedule (Permit Year)
Inspect complaints of Illicit Discharge	Inform public of methods to communicate concerns regarding illicit discharges # reports investigated	Leavenworth	1, 2, 3,4, 5
Update Stormwater Outfall Maps	Continue efforts to accurately locate and measure existing and new stormwater infrastructure	Leavenworth	1,2,3,4,5
Inspect Outfalls	# outfalls inspected	Leavenworth	1,2,3,4,5
Collect Yard Waste at City Composting Facility	# customers	Leavenworth	1,2,3,4,5
Collect Tree and Brush Debris at Brush disposal site	# customers	Leavenworth	1,2,3,4,5
Collect Household Hazardous Waste as part of Citywide Clean-up Event	# pounds of household hazardous waste recycled	Leavenworth	1, 2, 3,4, 5
Conduct Free Disposal Saturdays (First Saturday)	# Events # Tons Collected	Leavenworth	1,2,3,4,5
Staff Training	# of staff trained	Leavenworth	1,2,3,4,5

Stormwater Management Program BMP List
February 23, 2016

Stormsewer Maintenance and Inspection	Provide dry weather storm sewer inspection.	Leavenworth	1,2,3,4,5
Inspection of Sanitary Sewer Systems	Inspect residential and commercial sanitary systems for improper discharge into storm drains. Inspect sanitary sewer system to reduce number and volume associated with SSO Coordinate SSO events between Wastewater Staff, Building Officials and Engineering.	Leavenworth	1,2,3,4,5
Commercial Grease Trap Inspection Program	Review status of commercial grease traps through record review and physical inspection	Leavenworth	1,2,3,4,5

Stormwater Management Program BMP List
February 23, 2016

Minimum Control Measure #4 - Construction Site Runoff Control

BMP	Measure	Responsibility	Schedule (Permit Year)
Construction Drawing plan review and Site Runoff Control	# plans reviewed # LDP Issued	Leavenworth	1, 2, 3,4,5
Publish Updated Standard Details and Design Criteria for Erosion Control*	Make available on-line Review annually with staff	Leavenworth	1,2,3,4,5
Staff Training on Runoff Inspection	# inspectors trained	Leavenworth	1,2,3,4,5
Inform Local Contractors of LDP	Annual notification of LDP requirements LDP documents available on-line	Leavenworth	1,2,3,4,5
Pre-Construction Meetings with Owner and Contractor - Require meetings with owner and contractor prior to commencement of grading operations.	# Meetings	Leavenworth	1,2,3,4,5
Construction Site Inspection and Enforcement - Increase the frequency of inspections and communications back to owner/contractor	Documentation of inspections	Leavenworth	1,2,3,4,5

Stormwater Management Program BMP List
February 23, 2016

Minimum Control Measure #5 - Post Construction Runoff Control

BMP	Measure	Responsibility	Schedule (Permit Year)
Construct Sediment vane traps on new and reconstructed inlets	# Inlets	Leavenworth	1,2,3,4,5
Protect sensitive areas, such as wetlands and riparian areas through plan review and selected land acqusition from developers and at tax sales	# tracts acquired from developers # tracts acquitted from Tax sale # Acres acquired/year	Leavenworth	1,2,3,4,5
Enforce Post Construction Runoff Control Ordinance	# LDP Releases Documentation of Inspection and communication	Leavenworth	1,2,3,4,5
Conduct Long Term BMP Maintenance Inspections	Documentation of inspection and communication	Leavenworth	1,2,3,4,5
Analyze Existing Structural BMP Performances at selected sites (particularly detention basins)	# sites evaluated	Leavenworth	1,2,3,4,5
Measure rain gage and creek depth to evaluate flow quantity and duration from at least March – October.	# Rain gages # Stream gages	Leavenworth	1,2,3,4,5

Stormwater Management Program BMP List
February 23, 2016

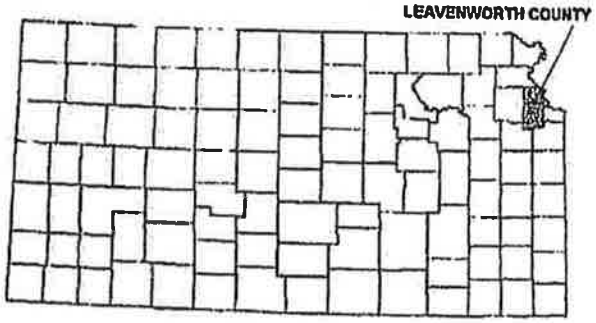
Minimum Control Measure #6 - Municipal Pollution Prevention

BMP	Measure	Responsibility	Schedule (Permit Year)
Review City Facilities for water quality concerns and develop plans to address them, goal is at least three facilities per year	# Reports Prepared	Leavenworth	1,2,3,4,5
Street Sweeping Program – goal is residential areas three times per year and collector/arterial streets once per month (8 months)	# Times completed Residential Area Sweeping # Times completed Collector/arterial Sweeping # hours sweeping	Leavenworth	1,2,3,4, 5
Snow Removal Operations - Use ground speed control and GPS equipment to keep salt use within guidelines	# tons of salt used per year # pounds per lane mile per storm	Leavenworth	1,2,3,4,5
Stormwater Inlet Cleaning	# Inlets	Leavenworth	1,2,3,4, 5
Continue Citywide Leaf Collection Program (currently one-half of city each year)	# loads	Leavenworth	1,2,3,4,5

FLOOD INSURANCE STUDY

LEAVENWORTH COUNTY, KANSAS
AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BASEHOR, CITY OF	200187
EASTON, CITY OF	200188
LANSING, CITY OF	200189
LEAVENWORTH, CITY OF	200190
LEAVENWORTH COUNTY UNINCORPORATED AREAS	200186
LINWOOD, CITY OF	200191
TONGANOXIE, CITY OF	200192



REVISED: July 16, 2015

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER

20103CV000B

September 1970. Unfortunately, precise data regarding flood levels reached by these events have not been documented. The following extracts from the Leavenworth Times described two of the events that were experienced. "On July 30, 1958, more than four and half inches of rain fell in the area." Hundreds of area residents were delayed in reaching their homes by streams that were overflowing their banks at many locations. On October 13, 1961, three to four inches of rainfall occurred in the area.

The City of Lansing is above the floodplain of the Missouri River except for the areas where Sevenmile Creek and other right bank tributaries enter the Missouri River. The only recorded damage to the City, caused by flooding from the Missouri River, occurred when an emergency levee failed during the April 1952 flood. The flood caused a total of $125,200 damage to the Leavenworth and Lansing areas. The damages were $112,000 to business property, $12,600 to homes, and $600 to public property (Reference 1). The main sewers are subject to silting and other damage by flooding from the Missouri River.

City of Leavenworth

The flood producing characteristics of Threemile, South Branch, and Fivemile Creeks are typical of small watersheds in the Midwest region. Past flood flows have usually been caused by short duration thunderstorms having high intensity rainfall. Conversely, flood problems associated with the Missouri River are usually caused by long protracted fronts occurring over large areas. There are no natural obstructions to flood flow in the Threemile Creek floodplain. Obstructions restricting floodwater flow have been created by man's continued encroachment on the Threemile Creek floodplain. Severe restrictions to flood flow have been created in the past by construction of many bridges located in the floodplain between Tenth Street and the mouth. In addition, a portion of the creek channel had been enclosed in a box culvert located under the railroad yards between Seventh Street and Broadway. Because of inadequate openings in these bridges and culvert, a cumulative aggravation of flood backwater occurred in the lower floodplain

The City of Leavenworth embarked on a substantial effort to improve flooding conditions downstream of Tenth Street in the early 1980's. The bridge on Tenth Street was replaced in 1983, the bridge on Cherokee (west of Broadway) in 1981, and the bridge on Shawnee west of Tenth in 1985. The rail yard trestles were removed by 1988. In addition, new bridges have been constructed at Third Street, Sixth Street, Seventh Street, Broadway and Shawnee Streets since 1988. Construction of a pedestrian trail at creek level between Esplanade Street and 7th Street contributed to larger channel cross sections between Fourth Street and Seventh Street and generally improved flow characteristics. A new bridge at Second Street is expected to be constructed in 2015. A significantly larger natural open channel was constructed between 6th Street and Cherokee Streets in the early 1990's.

The improvements since the last FIS have had a significant impact on the critical area near Cherokee and Broadway Streets. At this location flood flows were impeded by small bridge openings at Cherokee Street and at Broadway Street that forced excess water out of banks through the developed floodplain area along Cherokee Street. Flow from this area attempting to return to the channel was further impeded by the now removed railroad yard culvert. Flooding at Cherokee Street occurs less often with the construction of the noted improvements.

Channel restrictions between Cherokee Street and Shawnee Street west of Broadway remain. These restrictions continue to pose a threat to structures along Miami St. between 8th St. and 10th St.

Since there is no stream gaging stations on Threemile Creek or its South Branch, documentation of flood problems affecting Leavenworth in the past rely completely upon historical accounts. Detailed investigations have been made of flooding which occurred in July 1958 and October 1961. In addition, fragmentary records of 11 additional floods have been found through a search of newspaper files. It appears that the maximum known flood prior to 1972 occurred in 1904. This flood had an estimated peak discharge of 7,000 cubic feet per second (cfs) at the mouth (between the discharge of a 50-year and 100-year flood), and 6,500 cfs at Seventh Street. The following composite accounts describe the July 1958 and October 1961 events experienced on Threemile Creek.

On July 30, 1958, more than 4 1/2 inches of rain fell in the Leavenworth area. Damage estimated at $30,000 was reported from businessmen and homeowners from the resulting flood on Threemile Creek. The downtown area was hardest hit, especially on Cherokee from Broadway to Seventh Street where the discharge of the flood was estimated at 4,300 cfs.

On October 13, 1961, three to four inches of rainfall fell in the Leavenworth area. The resulting flood on Threemile Creek exceeded bank full capacity at 7:00 PM, crested at about 9:00 PM, and receded to within-bank stages at 11:30 PM. The flood caused $71,000 damage in Leavenworth, of which $58,700 was damage to 24 business places and 16 residences, and the remainder was damage to transportation facilities and municipal property. The discharge at Seventh Street was estimated at 4,000 cfs.

The City of Leavenworth Public Works Department has identified the following significant flood events since 1972 (Reference 12). In all cases – water overtopped the banks upstream of Cherokee Street and flowed east along Cherokee Street, returning to the banks of the creek at 6th Street. Flooding of the 800 and 900 blocks of Miami also occurred in the same years noted below causing damage to residences and businesses. Water has been as high as two feet deep in Miami Street. The city has purchased several homes using "buy-out" programs, and worked with businesses to ensure that they take appropriate measures to minimize risks from flooding. Some of the more notable events include:

- July 6-7, 1986- 10.4 inches of rain fell, causing water to flow down Cherokee Street and floating several automobiles and trailers.
- May 15, 1990 – 4.4 inches of rain fell causing minor flooding.
- October 4th 1998 – between six and eight inches of rain fell in a twelve hour period causing damage on Cherokee Street and areas upstream of Shawnee (west of Tenth Street). Damage was also noted in the 800 and 900 blocks of Miami Street.
- 1993 – Local heavy thunderstorms combined with an elevated water surface in Three-Mile Creek from record flooding on the Missouri River resulted in significant flooding along Cherokee Street.

- October 2nd 2005 – A NWS gage recorded 5.6 Inches of rain, but eyewitness accounts and anecdotal evidence supports between seven and eleven inches of rain falling in a four hour period in some locations. The resulting flood was identified as the worst in memory, and flooded structures between 11th Street and downstream to 6th Street. A new bridge was under construction at 6th Street, and the debris caused the complete collapse of the falsework. The floodwater and debris and falsework passed through the old railroad Bridge at Esplanade Street which acted as lens and focused the stream upon the mouth of the creek at the Missouri River. The jet of water undermined the sanitary sewer along the banks of the Missouri River. A hole that later measured as over forty feet deep appeared where the sewer had been buried twenty feet below the creek bottom. The sewers were repaired by late 2006 at a total cost of about $1,000,000. Estimates of flow were later determined by Black & Veatch Engineers as being in excess of 7500 cfs at Esplanade Street.

- There has been no further flooding of Cherokee Streets between 2005 and October 2014.

Flood damage along South Branch of Three-Mile Creek has typically been much less severe than that along the Main Branch of Threemile Creek. Damage to road crossings and property near Eleventh Street as well as scouring is likely to take place during floods.

Severe restrictions from bridges across Five-Mile Creek have been addressed with new structures at Fourth Street, Second Avenue/Limit Street and Shrine Park Road since 1972. Inadequate openings of the older bridges had caused a cumulative aggravation by flood backwater in the floodplain.

Newspaper accounts provide most of the history of flooding on Fivemile Creek prior to the 1970's. These accounts reveal that flooding has occurred several times in the past. Notable floods were reported in June 1942, July 1958, October 1961, April 1969, and September 1970. Unfortunately, precise data regarding flood levels reached by these floods have not been documented.

The flood of July 30, 1958, had Fivemile Creek flooding Shrine Park Road, Limit Street and U.S. 73 at Black Bridge (Reference 1).

The flood of October 12, 1961, swept away cut brush laying in the vicinity of the sewage treatment plant at Second and Fivemile Creek (Reference 1).

On April 26, 1969, Fivemile Creek ran 10-12 inches deep across Shrine Park Road, just south of the entrance to the golf club. Along south Fourth Street the stream spread out for a half mile or more and at Second Street, in the vicinity of the sewage disposal plant, the creek rose to the edge of the street (Reference 1).

Heavy rains since 1988 often result in water flowing across Shrine Park Road at low areas north of the new bridge and across Tenth Avenue at Wellington Drive. These events also result in significant erosion and scouring of the creek bank. Water has crossed the bridge at Second Avenue and Limit Street on several occasions at depths up to six inches since 1988. One notable event occurred on October 4, 1998, when 4.74 inches of rain fell in two hours (measured in south Leavenworth), and it resulted in ten

inches of water across Tenth Avenue at Wellington, 24 to 30 inches across Shrine Park Road north of the bridge, and six to eight inches across Limit Street (Reference 12). A new larger bridge at this site is completed (2014) and is expected to reduce and possibly eliminate roadway flooding at this location.

The City of Leavenworth is above the floodplain of the Missouri River except for the areas where Threemile and Fivemile Creeks and other smaller right bank tributaries enter the Missouri River. Recorded damage to the city, caused by flooding from the Missouri River, occurred when an emergency levee failed during the April 1952 flood. The flood caused a total of $125,200 damage in Leavenworth. The damages were $12,000 to business property, $12,600 to homes, and $600 to public property. The Wastewater Treatment Plant had never been threatened by flooding until it was inundated in the 1993 Missouri River Flooding, with repair costs in excess of $1 million required to restore service. The plant has been threatened to a level requiring sandbagging and other measures at least three additional times since 1993, most notably in 2011 due to releases from Corps of Engineers dams upstream when the levels were within six inches of the city closing the plant.

Second Street north of Five-Mile Creek is subject to standing water and flooding from high water in the Missouri River and is then closed to protect the public. This has happened at least five times since 1988.

The Riverfront Community Center (Union Railroad Depot) was protected from flooding in 1993 when nearly four feet of water from the Missouri River threatened the structure. Heroic efforts by the community created a sizable protective sandbag wall that prevented flooding, but the building suffered related damage requiring over $300,000 in repairs. It has been necessary to construct flood protective measures at least three times since 1993 with expenses typically in excess of $10,000 on each occasion. The City expects to construct a permanent floodwall with a FEMA grant in 2015 to reduce expenses and damage from future floods.

A combined effort of Leavenworth County, City of Leavenworth and City of Lansing resulted in a recording stream gage being installed at the Leavenworth Waterworks Intake structure on Dakota Street in September 2012. This is expected to improve flood evaluation and forecast activities.

2.4 Flood Protection Measures

There are several flood protection measures operable for the benefit of Leavenworth County. The Mud Creek Levee Unit meets the requirements and provisions of Section 65.10 of the NFIP regulations. The levee system provides flood protection for the 1-percent annual chance flood event on Mud Creek. The levee system is currently in the USACE PL 84-99 levee program and is periodically inspected by the Kansas City USACE District. There are some low frequency private agricultural levees along Stranger Creek that do not meet the FEMA 3-foot freeboard requirement and any other provisions of Section 65.10 of the NFIP regulations. There are no major structural flood protection measures planned for this study area. However, the adoption of State and local development regulations concerning floodplain management will help alleviate storm related losses.

ORDINANCE NO. 8021

AN ORDINANCE AMENDING LEAVENWORTH CODE OF ORDINANCES, CHAPTER 46, ENVIRONMENT, ADDING ARTICLE VIII STORMWATER MANAGEMENT-LAND DISTURBANCE PERMITS, SEC. 46-261 THROUGH 46-272, PROVIDING SUBSTITUTE PROVISIONS AND REPEALING SECTIONS IN CONFLICT.

THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LEAVENWORTH, KANSAS:

Section 1. Code of Ordinances, Chapter 46 Environment, adding Article VIII, Stormwater Management-Land Disturbance Permits, Sec. 46-261 through 46-272

ARTICLE VIII – STORMWATER MANAGEMENT-LAND DISTURBANCE PERMITS

46-261 Definitions.

"Applicant" means a property owner or agent of a property owner who has filed an application for a permit that is subject to the requirements of this Title.

"Best Management Practices" or *"BMPs"* mean the utilization of methods, techniques or products that have been demonstrated to be the most effective and reliable in minimizing adverse impacts on water bodies and the adjacent Stream Corridors, including but not limited to, schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include physical facilities, schedule of activities, prohibitions of practices, maintenance procedures, and other management practices which, when properly designed, installed and maintained, will be effective to prevent or reduce the discharge of water or air pollution, treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage associated with Land Disturbance activities regulated by this Title.

"Certified Professional in Erosion and Sediment Control (CPESC)" means an individual who is currently holding such certification as issued by CPESC, Inc., or other Person holding a State license authorizing them to prepare and submit an Erosion and Sediment Control Plan.

"City" means the City of Leavenworth, Kansas.

"City Engineer" means the City Engineer for the City of Leavenworth, Kansas, or duly designated representative.

"Clean Water Act" means the federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

"Code" means the Leavenworth Code of Ordinances.

"Development" means any man-made change to improved or unimproved real property including the construction or reconstruction of buildings or structures; paving, excavation, grading, filling or similar operations; or the filing and recording of a subdivision plat.

"Erosion" means the wearing away of land by the action of wind, water, gravity or ice or a combination thereof.

"Erosion and Sediment Control Plan", or "Plan", means a Plan for the control of soil erosion and sedimentation resulting from land disturbing activity, and may include, without being limited to, the drawings, specifications, construction documents, schedules, or other related documents which establish the Best Management Practices (BMPs) on a project. The Plan shall include any information required to review the design of the BMPs and to ensure proper installation, maintenance, inspection, and removal of the BMPs, along with the details required to construct any portion of the final storm sewer system that was impeded by a BMP.

"Erosion and Sediment Control Standards", or "Standards" means the Erosion and Sediment Control design criteria and specifications adopted in writing by the City Engineer.

"Governing Body" means the City Commission for the City of Leavenworth, Kansas.

"Land Disturbance" means any activity that changes the physical conditions of landform, vegetation and hydrology, creates bare soil, or otherwise may cause erosion or sedimentation. Such activities include, but are not limited to, clearing, removal of vegetation, stripping, grading, grubbing, excavating, filling, logging and storing of materials.

"Land Disturbance Permit" means a permit issued by the City Engineer subsequent to approval of Final Stormwater Management plans and Erosion and Sediment Control Plans under this Title.

"Landowner" means the legal or beneficial owner or owners of a lot or tract. The holder of a contract to purchase or other person having an enforceable proprietary interest in a lot or tract shall be deemed a landowner.

"Municipal separate storm sewer system" (MS4) means the system of conveyances, (including roads with drainage systems, municipal streets, private streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and operated by the City and designed or used for collecting or conveying stormwater, and which is not used for collecting or conveying sewage.

National Pollution Discharge Elimination System or "NPDES" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 318, 402 and 405 of the federal Clean Water Act.

"NPDES Permit" means for the purpose of this Title, a permit issued by United States Environmental Protection Agency (EPA) or the State of Kansas that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

"Notice of Intent (NOI)" means the state approved permit issued under the NPDES general permit that authorizes the discharge of stormwater from construction activities within the state for sites greater than or equal to one acre or when the site is a part of a larger common plan of development or sale which will disturb a cumulative total of one or more acres.

"Perennial Vegetation" means grass or other appropriate natural growing vegetation that provides substantial land cover, Erosion protection and soil stability and that is capable of sustained and healthy growth over multiple years under the constraints of shade, temperature, and moisture that will be prevalent on the site. For the purposes of this Title, annual grasses that do not regenerate after winter, ornamental plants or shrubs that do not offer effective Erosion and Sediment protection, and plants that are not suitable for the expected growing conditions on the site shall not be considered Perennial Vegetation.

"Person" means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns, including all federal, State, and local governmental entities.

"Permit" means a Land Disturbance Permit.

"Property Owner" means the named property owner as indicated by the records of the Leavenworth County, Kansas Records and Tax Administration.

"Sediment" means any solid material, organic, or inorganic, that has been deposited in water, is in suspension in water, is being transported or has been removed from its site of origin by wind, water, ice or gravity as result of soil erosion. Sedimentation is the process by which eroded material is transported and deposited by the action of wind, water, ice or gravity.

"State" means the state of Kansas.

"Stop Work Order" means an order issued which requires that all construction activity on a site be stopped.

"Storm Sewer System" means any conveyance or system of conveyances for stormwater, including road with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, as well as any system that meets the definition of a municipal separate Storm Sewer System or "MS4" as defined by the Environmental Protection Agency in 40 CFR 122.26.

"Stormwater" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Stormwater Pollution Prevention Plan (SWPPP)" means the written document that addresses all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity and controlled through the implementation of Best management Practices (BMPs).

"Stormwater runoff" means water resulting from precipitation which is not absorbed by the soil, evaporated into the atmosphere, or entrapped by ground surface depressions and vegetation and which flows over the surface.

"Stormwater Treatment Facilities" or "Facilities" means all structures, plantings, natural features, or other physical elements that are designed, constructed and maintained in accordance with this Title and which are provided to prevent or reduce stormwater pollution or to control stormwater runoff volume and discharges.

Sec. 46-262 Purpose

The purpose of this Chapter is to implement and provide for the enforcement of a program to regulate land disturbance and construction activities related to grading and to control erosion and sediment resulting from these activities.

The Congress of the United States has amended the Clean Water Act of 1972 to reduce pollutants discharged into the waters of the United States by extending National Pollution Discharge Elimination System (NPDES) requirements to regulate stormwater and urban runoff discharge from land disturbance and construction activities, into the City's Stormwater Drainage Systems.

The City of Leavenworth is subject to NPDES requirements of federal law as an operator of a small Municipal Separate Storm Sewer System. The City is therefore obligated by federal law to develop,

implement, and enforce minimum erosion and sediment control standards in compliance with the City's Kansas Water Pollution Control General MS4 Permit.

Sec. 46-263 Activity

1) No person shall maintain a land disturbance activity or construction site that fails to provide and implement erosion and sediment control Best Management Practices to the maximum extent practicable to prevent the discharge of sediment, construction materials, concrete truck washout, fuel, or other pollutants beyond the project construction limits, adjacent staging, storage or parking areas and/or property boundaries or into the City's Stormwater Drainage System, rights-of-way, drainage easements, alleys, or other property of the City.

2) No person shall maintain a land disturbance activity or construction site without a Land Disturbance Permit and/or a site specific Erosion and Sediment Control Plan approved by the City Engineer or his designee.

3) No person shall fail to immediately take all action necessary to completely abate any violation of this Chapter including but not limited to the establishment or restoration of Erosion and Sediment Control BMP's as required by this Chapter and remedial action to clean and/or remove sediment and other pollutants in violation of this Chapter.

Sec. 46-264 Land Disturbance Permit Required

The issuance and approval of a Land Disturbance Permit is subject to and contingent upon compliance with this Chapter and all other City permits, Leavenworth Code of Ordinances, other City regulations and other requirements specific to the development during the duration of the land disturbance, and such Land Disturbance Permit may be revoked or withdrawn upon a failure to comply with this Chapter. The failure to comply with the requirements stated in this Chapter shall be unlawful and shall constitute a violation of this Chapter. No person shall authorize or maintain a land disturbance activity without first obtaining any Land Disturbance Permit required by this Chapter. The landowner of the land upon which a land disturbance activity takes place, shall be the person responsible for obtaining any required Land Disturbance Permit except for work conducted in the right-of-way or utility easements. The person or construction site operator conducting land disturbance activities in the right-of-way or easements shall be responsible for obtaining any required Land Disturbance Permit.

1) A Land Disturbance Permit is required for the following land disturbance activities.

   a) Any disturbance that will include more than one-hundred (100) square feet of fill or cut; or

   b) Any disturbance that occurs in or within fifty (50) feet of a natural or improved channel or drainage way; or

   c) Any disturbance that involves building construction of a new roofed structure of more than two-hundred-fifty (250) square feet on a site with less than one (1) acre of land disturbance.

   d) The following land disturbances will require the submittal of a state approved SWPPP and an NOI prior to the issuance of a Land Disturbance Permit.

      i. The cumulative disturbance of an area greater than or equal to one (1) acre; or

      ii. The disturbance of any part of a larger common plan of development or sale that, when completed, will disturb a cumulative area greater than or equal to one (1) acre; or

iii. Any construction activities which disturb less than one acre, and which are not part of larger common plan of development or sale, if the water quality impact from the discharge of stormwater from the construction activity warrants consideration because the proposed construction activities constitute a significant pollution potential.

2) A Land Disturbance Permit is not required for the following:

a) Work to correct or remedy emergencies, including situations that pose an immediate danger to life and property; or

b) Agricultural uses with the exception, that if the City Engineer determines that erosion and sediment controls are needed, then the following standards or permits may be required to be completed and maintained:

i. United States Department of Agriculture Natural Resources Conservation Service Erosion and Sediment Control Standards; or

ii. Land Disturbance Permit may be required.

3) Land Disturbance Permit Application shall include, but is not limited to, the following minimum submittal requirements:

a) A site specific Erosion and Sediment Control Plan that complies with this Chapter and the Leavenworth Code of Ordinances.

b) A site specific grading plan that complies with this Chapter and the Leavenworth Code of Ordinances, and/or other applicable City of Leavenworth Policies;

c) A Stormwater Pollution Prevention Plan (SWPPP) that complies with this Chapter. The SWPPP must be in compliance with the State of Kansas KDHE General Permit for NPDES stormwater runoff from construction activities;

d) Contact information for the applicant, construction site operator, project owner, qualified erosion control specialist, and inspector;

e) Area to be disturbed;

f) Duration of land disturbance;

g) Security as required by this Chapter:

h) Permit Fee as required by this Chapter.

4) The construction site operators required to be identified in the application shall be trained in erosion and sediment control practices, shall maintain a copy of any project related SWPPP on the project site and shall comply with all requirements of the Land Disturbance Permit.

5) The land disturbance activity described in the Land Disturbance Permit application shall be commenced within the time limits defined in the application. The land disturbance activity described and authorized in the Land Disturbance Permit application shall adhere to the schedule defined in the Land Disturbance Permit application or be subject to additional fees defined in this Chapter.

6) The Land Disturbance Permit application, Erosion and Sediment Control Plans and all other Land Disturbance Permit requirements shall be prepared under the supervision of and sealed by a

Professional Engineer or Landscape Architect licensed in the State of Kansas who has received a minimum of eight (8) hours classroom instruction in sediment and erosion control taught by a Qualified Erosion Control Specialist.

7) For all Permits requiring a KDHE NOI and/or SWPPP, the Land Disturbance Permit application, Erosion and Sediment Control Plans and all other Land Disturbance Permit requirements shall be prepared under the supervision of and sealed by a Professional Engineer or Landscape Architect licensed in the State of Kansas who has received a minimum of eight (8) hours classroom instruction in sediment and erosion control taught by a Qualified Erosion Control Specialist.

8) A Land Disturbance Permit not being required for a site does not exempt a site from following the basic erosion control practices defined in the Leavenworth Code of Ordinances.

9) If the land disturbance activity threatens or impedes the ability of the City to meet its own permit requirements under the NPDES Stormwater Discharge Permit, the City Engineer may require any person to obtain a Land Disturbance Permit in full compliance with this Chapter.

10) Every permit shall expire based on the time limits defined in the application.

11) No person required by this Chapter to obtain a Land Disturbance Permit shall authorize or maintain a land disturbance activity or a site of construction, which is not maintained at all times, in compliance with the site specific Erosion and Sediment Control Plan approved by the City Engineer.

12) No person shall permit, authorize or maintain a land disturbance activity or construction activity until all erosion and sediment control measures identified in the Land Disturbance Permit application have been installed, inspected, and approved in accordance with this Chapter.

13) No person required by this Chapter to obtain a Land Disturbance Permit shall fail to obtain a satisfactory final inspection and City approval of the full site restoration in compliance with all requirements of this Chapter, prior to the expiration of the Land Disturbance Permit.

Sec. 46-265 Land Disturbance Permit Inspections

A Land Disturbance Permit acknowledges and conveys the City Engineer, or his/her designee, the right to enter upon property described in the Land Disturbance Permit, as necessary to enforce and carryout the provisions of this Chapter. All required erosion and sediment control measures shall be maintained in good order in compliance with the Erosion and Sediment Control Plan at all times.

1) Routine Inspection
   It shall be the responsibility of the permit holder to provide routine inspections of the construction site and maintain effective erosion and sediment control measures. Routine inspections shall be performed once per week, more frequently if required on the plan, and within twenty-four (24) hours following each rainfall event of half an inch (1/2") or more within any twenty-for (24) period. A log shall be kept of these inspections by the Qualified Erosion Control Specialist as a part of the SWPPP. Any deficiencies shall be noted in a report of the inspection and include the action taken to correct the deficiency. All written reports shall be submitted by the Qualified Erosion Control Specialist to the City as required by and in compliance with the City of Leavenworth Code of Ordinances. The City shall not be designated as an inspector. Residential and commercial contractors shall submit inspection records every three (3) months. All Contractors on City projects shall submit copies of their inspection records with all pay applications.

2) Initial inspection

The permit holder shall notify the City Engineer when initial erosion and sediment control measures are installed in accordance with the plan. No Land disturbance activity shall begin prior to the written approval by the City Engineer, that all pre-construction erosion and sediment control measures are correctly installed per the approved Plan.

3) Final inspection

A Land Disturbance Permit shall not be closed until a final inspection and approval of the site stabilization is issued by the City. No final Certificate of Occupancy shall be issued until a site is stabilized, restored, and the Land Disturbance Permit requirements have been satisfied and the permit closed. A site shall be considered stabilized and restored when perennial vegetation, pavement, buildings or structures using permanent materials, cover 70% of the disturbed area defined by the Land Disturbance Permit and as required by the City Engineer. All portions of the site using perennial vegetation for ground stabilization shall be homogeneously covered with at least a seventy (70%) vegetation density. Restoration includes the removal of all non-permanent erosion and sediment control devices for the site. Final Certification of the restoration and stabilization of the site shall be submitted for approval to the City Engineer by the Qualified Erosion Control Specialist. The submittal for Final Certification shall include a copy of all inspection records identified in Section A above.

Sec. 46-266 Land Disturbances of Less Than One (1) Acre

1) Land Disturbances less than one (1) acre that are not covered by a Land Disturbance Permit and require a building permit or work in the right-of-way permit will require an Erosion and Sediment Control Plan to be submitted in compliance with the City of Leavenworth Code of Ordinances.

2) Franchised and/or Public Utilities shall obtain a General Land Disturbance Permit for land disturbances of less than one (1) acre in lieu of obtaining individual project Land Disturbance Permits. The General Land Disturbance Permit for franchised and public utilities will be renewed annually and shall include the effective erosion control standards and construction methods that are to be implemented on the utility's projects, conforming to the Leavenworth Code of Ordinances. The fee and performance surety for a General Land Disturbance Permit will be as shown in the latest City of Leavenworth Table of Fees.

Sec. 46-267 Fees

1) Prior to the issuance of a Land Disturbance Permit, each applicant shall pay to the City a fee as established by the Governing Body as set out in Appendix F. Fees paid for a Land Disturbance Permit, which is subsequently revoked by the City Engineer, are not refundable. A person operating in compliance with the regulations of this Chapter shall not be charged a permit fee when obtaining a Land Disturbance Permit for construction or re-construction of City owned and financed capital improvements projects.

2) Any person who permits, authorizes, or maintains a land disturbance activity without first obtaining a valid Land Disturbance Permit required by this Chapter, shall pay additional permit fees as set out in Appendix F.

3) The applicant shall establish and maintain throughout the permit period an escrow account, or a surety bond in the City's name, as sufficient surety for the City. The City Engineer may determine that a specific type of surety instrument be required of an applicant based on the project proposed and the past performance of the applicant. The amount of the required surety shall be as defined in Appendix F. The amount of the escrow account may be reduced with the approval, in writing, of the City Engineer.

Sec. 46-268 Enforcement of Code Provisions

Any person, that fails to provide and implement Erosion and Sediment Control Best Management Practices to the maximum extent practicable as required by this Chapter, shall be ordered by the City Engineer, to take remedial action on said land to prevent the occurrence or recurrence of a violation of this Chapter. Remedial action shall include, but not limited to, conformance to the requirements of this Chapter. When failed or absent erosion control has resulted in mud, silt, gravel, dust, or other debris entering into the public rights of way, drainage easements, alleys, or other property of the City, the remedial action required also shall include the restoration of the area disturbed to a neat and presentable condition and removal of any debris or other pollutants.

Whenever the City Engineer, finds a violation of this Chapter, he/she shall order the landowner upon which a land disturbance activity takes place, the Construction Site Operator, and/or the Permit Holder to take action within (48) forty-eight hours after such order to comply with the provisions of this Chapter. The order may direct the removal of any dirt, debris, or mud that has been deposited in the rights of way, drainage easements, alleys, or other properties owned by the City, within (4) four hours after service of such notice. Notice may be given in person, by posting at the site, by telephone call, e-mail, or by facsimile contacts as provided in the Land Disturbance Permit Application.

In addition to the enforcement provisions of this chapter, the City Engineer may issue a Stop Work Order if the he/she determines that work authorized by a Land Disturbance Permit is in violation of this Chapter or the Erosion and Sediment Control Plan, including required drainage, grade or elevation plans, or not in compliance with the provisions of the application, plans or specifications, or conditions upon which a permit was issued, including but not limited to the following:

1) Applicant fails to submit reports in accordance with this Chapter;

2) Inspection by the City Engineer reveals the site defined by the Land Disturbance Permit is not in substantial compliance with the Erosion and Sediment Control Plan, as determined by him/her;

3) Failure to comply with a written order from the City Engineer to bring the site into compliance with the Land Disturbance Permit, correct a violation of this Chapter, or restore a disturbed area within the time limits defined by him/her; or

4) Applicant fails to pay any fee.

In the event a Stop Work Order is issued by the City Engineer, he/she shall order and direct the landowner of the property, or the landowner's agent, or any party in possession of such property described in the Land Disturbance Permit Application, or the construction site operator performing the work, or any work authorized by the City permit in the development to immediately suspend work within the area defined in the Land Disturbance Permit.

Such Stop Work Order shall be in writing, shall state the conditions under which the work may be resumed, and may be served upon a person to whom it is directed either by personal delivery, or by posting the area defined by the Land Disturbance Permit and/or mailing a copy of the same to the address identified within the Land Disturbance Permit application or permit holder, landowner, and/or any party in possession of such property. In the event the City Engineer issues a written Stop Work Order, all persons shall cease all work on the development site, except work necessary to remedy the cause of the suspension.

It shall be unlawful for a Land Disturbance Permit applicant, construction site operator, party in possession of property subject to a Stop Work Order, or landowner subject to a Stop Work Order, to

allow, consent, or permit any person to perform work described within the LAND DISTURBANCE PERMIT or any other work requiring a City permit, upon property subject to a Stop Work Order.

Upon written notice by the City Engineer as required herein for a Stop Work Order, the City engineer may revoke the Land Disturbance Permit if the applicant fails or refuses to remedy the cause of the suspension set forth in the Stop Work Order.

In the event the Land Disturbance Permit is revoked by the City Engineer, no person shall permit or continue any work described in the Land Disturbance Permit without first obtaining a new Land Disturbance Permit and paying a new permit fee as required by this Chapter.

Sec. 46-269 Abatement of Nuisances and Hazards

In addition to the penalties provided by this Chapter, when the City Engineer determines there exists a condition or act prohibited by this Chapter, he/she may, in his or her sole discretion, take whatever action he or she deems necessary to immediately abate the nuisance or hazard to protect the safety of persons or property, and the City may be reimbursed from any surety required by this Chapter, and/or may assess, to the property where a violation has been identified by the City Engineer, all costs of the abatement, including administrative costs, materials, and personnel, to the person who commits, permits, maintains, directs, or authorizes the nuisance or hazard in violation of this Chapter.

The Governing Body hereby delegates to the City engineer, the duty of determining when a violation of the Chapter exists. This determination shall be made in written form by the City engineer, acting on behalf of the Governing Body, and the City Engineer may proceed to abate and assess the nuisance.

Sec. 46-270 Failure to Comply With Order

No person shall intentionally impede or obstruct the City Engineer or his or her lawful designee from the lawful performance of duties or activities related to the enforcement of this Chapter or abatement of violations, through the use of restraint, coercion, intimidation, by force and violence, or threat thereof. No person shall intentionally disregard an Order of the City Engineer or his or her lawful designee, to immediately cease and discontinue a condition or act prohibited by this Chapter, or to fail to take any action necessary to immediately abate and/or remedy the conditions prohibited by this Chapter and as required by the City Engineer.

Sec. 46-271 Penalties

Any person violating any of the provisions of the Chapter shall be guilty of a Class C offense. The imposition of a penalty shall not prohibit any action of the City Engineer to enforce compliance, prevent a violation, or remedy a violation, nor shall it prohibit the City Engineer from imposing liens or assessments necessary to remedy a violation of this Chapter. In addition to the imposition of a penalty, the Court may assess restitution and reimbursement of all costs of any abatement, including administrative, materials, and personnel, to the person who commits, permits, maintains, directs, or authorizes, a violation of this Chapter.

The City shall keep a record of the total cost of such abatement or removal incurred by the City, and shall bill such costs to the owner of the property where a violation of this Chapter takes place by certified mail, return receipt requested. If the assessment for such costs is unpaid after (30) thirty days from the date of billing, the City Clerk, at the time of certifying City taxes, shall certify such costs to the County Clerk, with instructions to extend the same on the tax roll of the County against the applicable lot or parcel of ground, and ask that it be collected by the County Treasurer and paid to the City as City taxes are collected and paid. Nothing in this section shall limit the City's right to pursue collection both by levying a special assessment and in any other manner provided for by law, but only until the full cost and any applicable interest has been paid in full.

The imposition of a penalty for any violation or noncompliance shall not excuse any violation, permit a violation to continue, or excuse any obligation to remedy any violation. The City shall have the authority to maintain civil suits or actions in any court of competent jurisdiction for the purpose of enforcing the provisions of this Chapter. In addition to any other remedies, the City Attorney may institute injunction, mandamus, or other appropriate action or proceeding to prevent violation of this Chapter. Each day that a violation occurs or is permitted to continue shall constitute a separate offense.

Sec. 46-272 Additional Persons Responsible for Compliance

In addition to the person who commits, permits, maintains, directs, or authorizes, a violation of this Chapter, additional persons responsible for compliance with this Chapter shall include, jointly and severally:

The owner or occupant of the property upon which a violation or an illicit connection or discharge occurs:

The person who submits or to whom a Building Permit or NPDES Permit is issued that relates to the property upon which a violation or an illicit connection or discharge occurs:

Any person who participates in a violation or an illicit discharge or illicit connection as prohibited by this Chapter.

Section 2. That all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 3. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The Governing Body hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 4. That nothing in this ordinance hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 2 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 5. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect from and after the date of its final passage and adoption.

Passed by the City of Leavenworth City Commission on this 20th day of December, 2016.

Larry Dedeke, Mayor

ATTEST:

Carla K. Williamson, CMC, City Clerk

SEAL OF THE CITY OF LEAVENWORTH CORPORATE SEAL KANSAS

Summary Published in The Leavenworth Times
Date of Summary Publication: December 23, 2016

Ordinance No. 8021 Summary

On December 20 2016 the City of Leavenworth Kansas adopted Ordinance No. 8021. An Ordinance amending Leavenworth Code of Ordinances Chapter 46 Environment adding Article VIII Stormwater Management-Land Disturbance Permits Section 46-261 through 46-272 providing substitute provisions and repealing sections in conflict. A complete copy of this ordinance is available at www.lvks.org or at the Office of the City Clerk 100 N 5th Street Leavenworth Kansas. This summary certified by Tom Dawson City Attorney.

Publish Leavenworth Times December 23 2016

Certified by:

Tom Dawson, City Attorney

AFFP

Ordinance No. 8021 SummaryOn D

Affidavit of Publication

STATE OF KANSAS } SS
COUNTY OF
LEAVENWORTH }

Tammy Lawson, being duly sworn, says:

That she is Tammy Lawson of the Leavenworth Times, a daily newspaper of general circulation, printed and published in Leavenworth, Leavenworth County, Kansas; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

December 23, 2016

Ordinance No. 8021 Summary
On December 20 2016 the City of Leavenworth Kansas adopted Ordinance No. 8021. An Ordinance amending Leavenworth Code of Ordinances Chapter 46 Environment adding Article VIII Stormwater Management-Land Disturbance Permits Section 46-261 through 46-272 providing substitute provisions and repealing sections in conflict. A complete copy of this ordinance is available at www.lvks.org or at the Office of the City Clerk 100 N 5th Street Leavenworth Kansas. This summary certified by Tom Dawson City Attorney.
Published in the Leavenworth Times, December 23, 2016.

That said newspaper was regularly issued and circulated on those dates.

SIGNED:

Tammy Lawson

Subscribed to and sworn to me this 23 day of Dec, 16

Rebecca A. Mitchell, , Leavenworth County, Kansas

My commission expires: June 07, 2019

REBECCA A. MITCHELL
Notary Public - State of Kansas
My Appt. Expires 6/7/19

00000105 00024723

Deputy City Clerk
City of Leavenworth - Legals
100 North 5th Street
Leavenworth, KS 66048

Appendix F

KDHE Audit Report – December 18th, 2017

Division of Environment
Northeast District Office
800 W. 24th Street
Lawrence, KS 66046

Kansas
Department of Health and Environment

Phone: 785-842-4600
Fax: 785-842-3537
kdheks.gov

Dr. Susan Mosier, MD, Secretary

Sam Brownback, Governor

December 18, 2017

Mr. Michael McDonald, P.E.
Public Works Director
City of Leavenworth
100 N. 5th Street
Leavenworth, KS 66048

Re: MS4 Inspection

Dear Mr. McDonald:

I appreciated the courtesy you and your staff extended to Steve Weeks and I during the October 20 MS4 audit. The records were found to be in good order. Leavenworth staff has obviously worked hard on the program.

Two construction sites were visited as part of the MS4 audit. The entrance of the extended visit Marriott site needed to be reworked. No other issues were noted at the two locations.

Please contact me if you have questions or comments regarding this report.

Sincerely,

Helen L. Holm, P.E.
District Engineer

Cc: Rance Walker, BOW
NEDO Files – MS4/ Leavenworth

KDHE

MS4 NPDES PERMIT FOR STORMWATER DISCHARGES

PERMIT COMPLIANCE AUDIT / INSPECTION

Permittee:	City of Leavenworth
Kansas Permit Number:	M-MO12-SN01
Municipal Stormwater Program Manager:	Mike McDonald, Public Works Director
Managers Contact Information	
Telephone:	913/684-0375
E-mail:	mmcdonald@firstcity.org
Contacts	
General MS4 Issues:	Mike McDonald, Public Works Director
Telephone:	913/684-0375
E-mail:	mmcdonald@firstcity.org
Construction Site Issues:	Mike McDonald, Public Works Director
Telephone:	913/684-0375
E-mail:	mmcdonald@firstcity.org

This audit evaluates the stormwater program for the recent calendar year of 2016.

A. GENERAL ISSUES AND STORMWATER MANAGEMENT PROGRAM

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Is a copy of the present MS4 permit on file?	Yes
x				2. Is there a map or narrative description of the municipality's MS4 jurisdiction on file (the permit area)?	Yes
x				3. Is a copy of the present Stormwater Management Program (SMP) document on file? Has a copy of the SMP document been provided for KDHE files?	Yes

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				4. Are the costs associated with the stormwater program documented, and if so what were they in the last calendar year (2016)?	$140,340.57 spent from the operational budget. Total value of awarded stormwater construction in 2016 was approximately $2.18 million. Approximately $22,222 city employee time was spent on stormwater matters.
	x			5. Has the Stormwater Management Program been updated in the last year and if so was a copy of the updated document submitted to KDHE?	Program was adopted in 2/2016.
x				6. Is there a copy of the MS4 map displaying lines, outfalls and receiving waters?	
x				7. Is there a written spill response plan, including identification of emergency response participants?	
	x			8. Has a stormwater utility been established with a utility fee?	Work on such a utility is in progress.

B. SIX MINIMUM CONTROLS – PUBLIC EDUCATION AND OUTREACH

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Is there evidence of implementation of a public education program to expand the understanding of how pollutants in stormwater runoff can be reduced?	

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				2. Are there copies of outreach materials and resources which have been used to educate the public about stormwater pollution prevention topics?	
x				3. Is there a description of all high-priority stormwater issues for which public education efforts are to be directed?	
	x			4. Is there a list of educational activities which were scheduled in the last calendar year (2016), to meet measurable goals?	
	x			5. Is there documentation of the dates actual educational activities occurred in the last calendar year, including quantity, and types of educational materials distributed?	
	x			6. Are there any proposed modifications to this minimum control measure presently identified to be incorporated in the next update of the Stormwater Management Plan?	Seek opportunities with community groups to increase awareness of stormwater issues.

C. SIX MINIMUM CONTORLS – PUBLIC INVOLVEMENT AND PARTICIPATION

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Is there a program in place to solicit public comment and recommendations regarding BMPs and measurable goals? May include public meetings, public hearings or receipt of mail or e-mail.	
x				2. What is the local requirement for public notice and is there documentation of compliance with the requirement?	Once in the Leavenworth Times.
x				3. Is there a list of public participation events which were held in the previous calendar year (2016) including date and indication number of attendees?	
x				4. Are there any proposed modifications to this minimum control measure presently identified to be incorporated in the next update of the Stormwater Management Plan?	

D. SIX MINIMUM CONTORLS – ILLICIT DISCHARGE DETECTION AND ELIMINATION

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Is there a current storm sewer system map available to staff?	
x				2. Is there a regulatory mechanism enacted to prohibit illicit discharges into the storm sewer system?	
x				3. Are there business and industrial activity areas within the MS4 jurisdiction that may be more likely to have illicit discharges?	
x				4. Are there procedures for investigating, locating, and eliminating the source of illicit discharges?	Water Pollution Control staff.
x				5. Were illicit discharges detected?	
x				6. Have the detected illicit discharges been eliminated?	
x				7. Is there a spill response plan, including emergency response procedures?	

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				8. Have actions been taken to notify public employees, businesses and the general public of hazards associated with illicit discharges and improper disposal of wastes?	
	x			9. Are there any proposed modifications to this minimum control measure presently identified to be incorporated in the next update of the Stormwater Management Plan?	Increase staff exposure to illicit discharge issues.

E. SIX MINIMUM CONTORLS – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Is there a regulatory mechanism (ordinance or resolution if permittee is capable of enacting such) for construction site stormwater runoff control?	
x				2. Is there a program for regulation of construction activities that disturb one acre or more and alternately activities which are a larger common plan of development or sale that in total disturb one acre or more?	

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				3. Are there written procedures for performing site plan reviews prior to the start of construction activity (municipal and private)?	
x				4. Is there a checklist for use during inspection of a construction site?	
x				5. Are there written procedures for receipt and consideration of reports of noncompliance on construction activity?	
x				6. Is there a written procedure for enforcement of the implementation of the correct construction site BMPs and/or local regulated construction site requirements?	
x				7. Is there documentation of the various projects which initiated construction in the year 2016 and which were subject to construction stormwater BMP requirements? This should include project name, location acreage to be disturbed, names of owner and/or operator.	
x				8. Is there documentation of construction site inspections and efforts to resolve construction stormwater problems?	
x				9. Are there requirements for construction site owners or operators to implement appropriate erosion and	

				sediment control best management practices?	
x				10. Are there requirements for construction site owners or operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that are likely to cause adverse impacts to water quality?	
x				11. Are there procedures for site plan review which incorporate consideration of potential water quality impacts?	
x				12. Are there procedures for site inspection and enforcement of control measures?	
x				13. Are there guidance documents on Best Management Practices (BMPs) related to erosion and sediment control provided to developers, contractors and/or builders? This includes design standards, BMP manuals, or fact sheets.	
x				14. Is there documentation of all of the construction site inspections conducted in the previous calendar year (2016)?	

YES	NO	N/A	Not Known	ISSUE	COMMENT
				14a. How many construction site inspections were conducted in the previous calendar year (2016)?	346 documented inspections were performed. Another 467 were estimated to have been conducted.
				14b. How many construction site inspections conducted in the prior calendar year (2015)?	
				14c. How many construction site inspections were conducted in the second prior calendar year (2014)?	
x				14d. Are there any proposed modifications to this minimum control measure presently identified to be incorporated in the next update of the Stormwater Management Plan?	Increase staff training related to construction site inspection. Expand awareness of BMP maintenance expectations.

F. SIX MINIMUM CONTORLS – POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT PROJECTS

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Has a program to address post-construction stormwater runoff from areas of new development and redevelopment been developed?	Certificate of occupancy.

YES	NO	N/A	Not Known	ISSUE	COMMENT
				2. If the post-construction stormwater program has been developed, does it included the following items:	
x				2a. BMPs to prevent or minimize adverse water quality impacts,	
x				2b. Structural and/or non-structural BMPs appropriate to the municipality,	
x				2c, Is there a regulatory mechanism (ordinance or resolution if permittee is capable of enacting such) for post-construction runoff from new development and redevelopment projects,	
x				2d. Is there some provision which ensures adequate long-term operation and maintenance of post-construction stormwater BMPs	
x				3. Are there written procedures for site plan review of post-construction stormwater management requirements used by plan reviewers?	
x				4. Are there any proposed modifications to this minimum control measure presently identified to be incorporated in the next update of the Stormwater Management Plan?	They would like to hire more people. Increase staff training on post construction inspections.

G. SIX MINIMUM CONTROLS – POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				1. Has a program been developed that includes employee training to prevent and reduce stormwater pollution from municipal operations activities?	Several training classes including HazWoper, Erosion & Sedimentation Training, KDOT training plus other classes.
x				2. What general activities of municipal staff have changed in association with pollution prevention/good housekeeping as a result of the MS4 stormwater permit?	Staff is willing to call in problems.
x				3. Are there records documenting street sweeping activities for calendar year 2016?	
x				4. Are there guidance documents for application of deicing compounds to roads, parking lots and/or sidewalks?	City uses APWA guides.
x				5. Are there training materials and resources used to educate employees about pollution prevention strategies to implement during their daily job duties?	They have lined up 4 for next year and have done 2 in the past.

YES	NO	N/A	Not Known	ISSUE	COMMENT
x				6. Is there documentation of all employee training for stormwater management conducted in the last calendar year (2016), including dates, topics covered, and the employees in attendance at each training session?	
x				7. Are there any proposed modifications to this minimum control measure presently identified to be incorporated in the next update of the Stormwater Management Plan?	Evaluate at least two city facilities for stormwater quantity and quality concerns.

H. TOTAL MAXIMUM DAILY LOAD REGULATED POLLUTANTS

YES	NO	N/A	Not Known	ISSUE	COMMENT
	x			1. Are TMDL pollutants identified in the MS4 NPDES permit?	They do that testing after at least 2 storms and 2 after July 1.
x				2. Has a surface water wet weather monitoring program been developed?	
x				3. Were four wet weather monitoring events completed in the last calendar year (2016)?	

I. MONITORING INDUSTRIAL AND HIGH RISK RUN-OFF (Phase I permits only)

YES	NO	N/A	Not Known	ISSUE	COMMENT
		x		1. Has a program been developed that includes monitoring facilities for industrial and high risk run-off?	
		x		2. For this program is a list of industrial facilities maintained for which substantial contribution of pollutants to the MS4 could occur?	
		x		3. For this program were at least two facilities on the list inspected in 2016 with stormwater run-off sampled?	

J. Status of compliance with the MS4 NPDES Permit

YES	NO	Compliance Determination	COMMENT
x		Based upon this audit/inspection, is the permittee operating their stormwater program in compliance with the present MS4 permit?	
		If the answer to the above question is NO, is there the potential for minor or moderate modifications in operation (implemented in the areas of concern listed below) which would allow the permittee to achieve full compliance with the permit within 12 months?	

AREAS OF CONCERN

A. GENERAL ISSUES AND STORMWATER MANAGEMENT PROGRAM

B. SIX MINIMUM CONTROLS – PUBLIC EDUCATION AND OUTREACH

C. SIX MINIMUM CONTROLS – PUBLIC INVOLVEMENT AND PARTICIPATION

D. SIX MINIMUM CONTORLS – ILLICIT DISCHARGE DETECTION AND ELIMINATION

E.	SIX MINIMUM CONTROLS – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

F.	SIX MINIMUM CONTROLS – POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT PROJECTS

G.	SIX MINIMUM CONTROLS – POLLUTION PREVENTION/GOOD HOUSKEEPING FOR MUNICIPAL OPERATIONS

H.	TOTAL MAXIMUM DAILY LOAD REGULATED POLLUTANTS

G.	MONITORING INDUSTRIAL AND HIGH RISK RUN-OFF (Phase I permits only)

KDHE staff which conducted this Audit/Inspection are listed as follows:

1. Helen L. Holm – P.E. Signature - Helen Holm

Date Audit/Inspection conducted - 10/20/17
10/20/2017

Copy of completed document mailed to Permittee - 12/18/17
12/18/2017

10-20-2017

Leavenworth
M-MO12-SU01
Leavenworth Bus/Tech. Center, 20th & Eisenhower.
LEXCON Const.

Michael McDonald, PE, Dir. Pub. Works

MS4 AUDIT/INSPECTION

CONSTRUCTION SITE STORMWATER COMPLIANCE

Aspects which are to be evaluated include the following:

1.	Stormwater Pollution Prevention Plan (SWPPP or alternately SWP2 Plan) on site.	Yes.
2.	Log or documentation of BMP inspection/maintenance on site.	Yes.
3.	Significant evidence of sediment loss from construction site to either adjacent property, the storm sewer or to a stream.	No. All drainage stays on site and goes to detention. Site is 184 acres. Graded area being seeded. Photos 2, 3, 4, 6, 7.
4.	Concrete truck wash-out BMP appropriate if needed for the project.	N/A.
5.	Condition of installed BMPs.	Good. Photos 1, 2, 3.
6.	Are material storage areas adequately secured to avoid adverse impacts on stormwater?	Yes, since runoff contained on site. All photos.
7.	Is the construction site entrance/exit causing potential adverse impacts on stormwater?	No. Photo 1.
8.	Where photos taken of the site during this inspection?	Yes.

Prepared by: _____
Environmental Associate

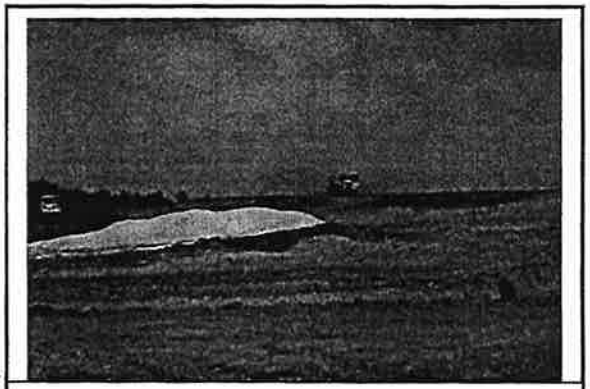
DEPARTMENT of HEALTH and ENVIRONMENT
DIVISION of ENVIRONMENT
BUREAU of WATER

Municipality:	City of Leavenworth	KWPC #	M-MO12-SU01
District:	North East	Date of Photos:	10-20-2017
Location/Description:	Leavenworth Business-Technical Center. 20th & Eisenhower.		

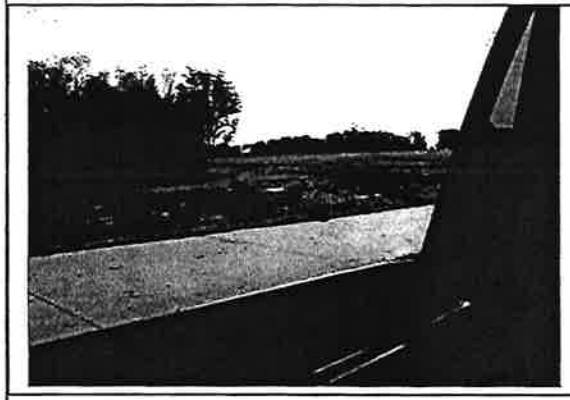
1. Looking south at south entrance road. Currently not primary entrance.

2. Looking west along south site boundary. Area drops to detention pond.

3. Looking east along south site boundary.



4. Looking north across site from south entrance road.



5. Looking east from west site boundary (20th St.) into detention pond. Problems with grass seedling die off.

6. Looking south from top of site. Primary detention area at center.

DEPARTMENT of HEALTH and ENVIRONMENT
DIVISION of ENVIRONMENT
BUREAU of WATER

Municipality:	Leavenworth	KWPC #	M-MO12-SU01
District:	North East	Date of Photos:	10-20-2017
Location:	Leavenworth Business-Technical Center. 2 0th & Eisenhower.		

7. Looking northeast from top of site.
Secondary detention left of center in distance.

10-20-2017

Leavenworth
M-MO12-SU01
Marriott Extended Stay, 1101 N. 4th
Prosser/Wilbert Const., Rick Ryan.

Michael McDonald, PE, Dir. Pub. Works

MS4 AUDIT/INSPECTION

CONSTRUCTION SITE STORMWATER COMPLIANCE

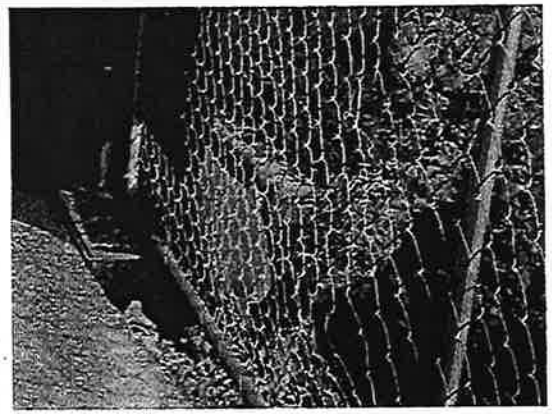
Aspects which are to be evaluated include the following:

1.	Stormwater Pollution Prevention Plan (SWPPP or alternately SWP2 Plan) on site.	Yes.
2.	Log or documentation of BMP inspection/maintenance on site.	Yes.
3.	Significant evidence of sediment loss from construction site to either adjacent property, the storm sewer or to a stream.	No. All runoff stays on site. Photos 1 and 2.
4.	Concrete truck wash-out BMP appropriate if needed for the project.	No constructed washout area. Currently use gravel area. Photo 4.
5.	Condition of installed BMPs.	Good. Photos 3, 5. Silt fence in photo 5 moved for utility work. Rubble pile in photo 6 needs silt fence.
6.	Are material storage areas adequately secured to avoid adverse impacts on stormwater?	Yes.
7.	Is the construction site entrance/exit causing potential adverse impacts on stormwater?	No, but needs to be reworked. Photo 8.
8.	Where photos taken of the site during this inspection?	Yes. Attached.

Prepared by: _____
Environmental Associate

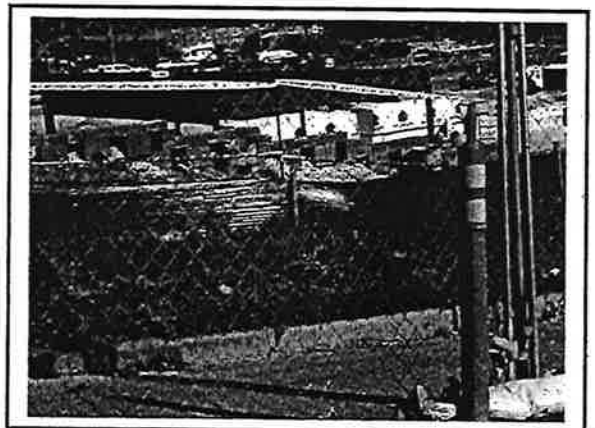
DEPARTMENT of HEALTH and ENVIRONMENT
DIVISION of ENVIRONMENT
BUREAU of WATER

Municipality:	City of Leavenworth	KWPC #	M-MO12-SU01
District:	North East	Date of Photos:	10-20-2017
Location/Description:	1101 N. 4th. Extended stay hotel.		



DEPARTMENT of HEALTH and ENVIRONMENT
DIVISION of ENVIRONMENT
BUREAU of WATER

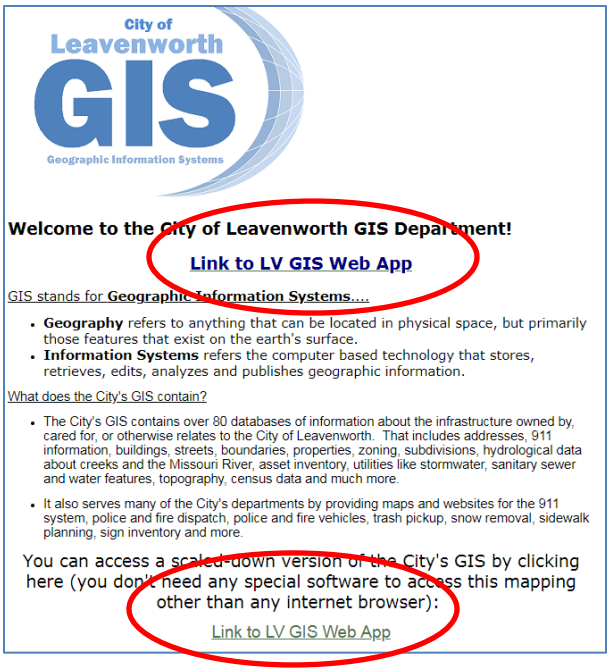
Municipality:	City of Leavenworth	KWPC #	M-MO12-SU01
District:	North East	Date of Photos:	10-20-2017
Location/Description:	1101 N. 4th. Extended stay hotel.		



Appendix G
N/A

Appendix H
Map Showing Stormwater System and Outfalls

A DVD containing the current Map of the City showing creeks, streams, inlets, outlets, outfalls and other stormwater-related information in PDF format will be mailed separately to Rance Walker of KDHE on or before February 28, 2018.



The current city mapping can be viewed online by searching for

LVKS GIS

and selecting "City of Leavenworth GIS" from the results, and following one of the Links, or directly accessing the following address:

http://www.lvks.org/department/division.php?structureid=139