

**PRELIMINARY DRAINAGE STUDY**  
**FOR**  
**TENTATIVE TRACT MAP NO. 38163**  
**KELLER CROSSING PROJECT**  
**IN THE**  
**COUNTY OF RIVERSIDE**  
**PLANNING CASE: TTM38163**

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**PREPARED: DECEMBER 2021**  
**REVISED: April 2022**

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## **INTRODUCTION**

### **Project Site Description**

Tract Map No. 38163, also known as Keller Crossing development project, consists of approximately 196.0 acres and proposes land uses that include single family residential, high density residential, commercial, park and open space areas.

Topographic conditions on most of the project site consist of gentle rolling hills with a sloped rise in elevation from existing Keller Road to the northern edge boundary. The site is currently bounded by Pourroy Road to the west, Winchester Highway (HWY-79) to the east, and Keller Road to the south. The northerly boundary of the project adjoins areas that have been designated as Conservation Habitat which will remain undeveloped.

The Keller Crossing development is under the jurisdiction of Riverside County Flood Control & Water Conservation District (RCFC&WCD) and Riverside County Transportation District. The project runoff ultimately discharges into the Santa Margarita River in Temecula and has been determined, under the Regional MS4 Permit to be within the Santa Margarita Watershed Management Area of Riverside County. Therefore, RCFC&WCD is the Principal Permittee of the Santa Margarita MS4 Permit.

Keller Crossing development Drainage Plan addresses proper drainage and water quality mitigation for the proposed development and to be consistent with Riverside County Flood Control and Water Conservation District (RCFC&WCD) and Riverside County Transportation Department specific requirements. The existing pre-developed condition and post-developed condition of the project are analyzed to ensure minimal impact into adjoining communities and existing downstream storm drain infrastructures. Water quality mitigation has also been implemented to integrate with the overall drainage design of the entire project with the application of water quality basins and treatment structures - as the project has been designated to comply with Santa Margarita MS4 Permit and its specific requirements.

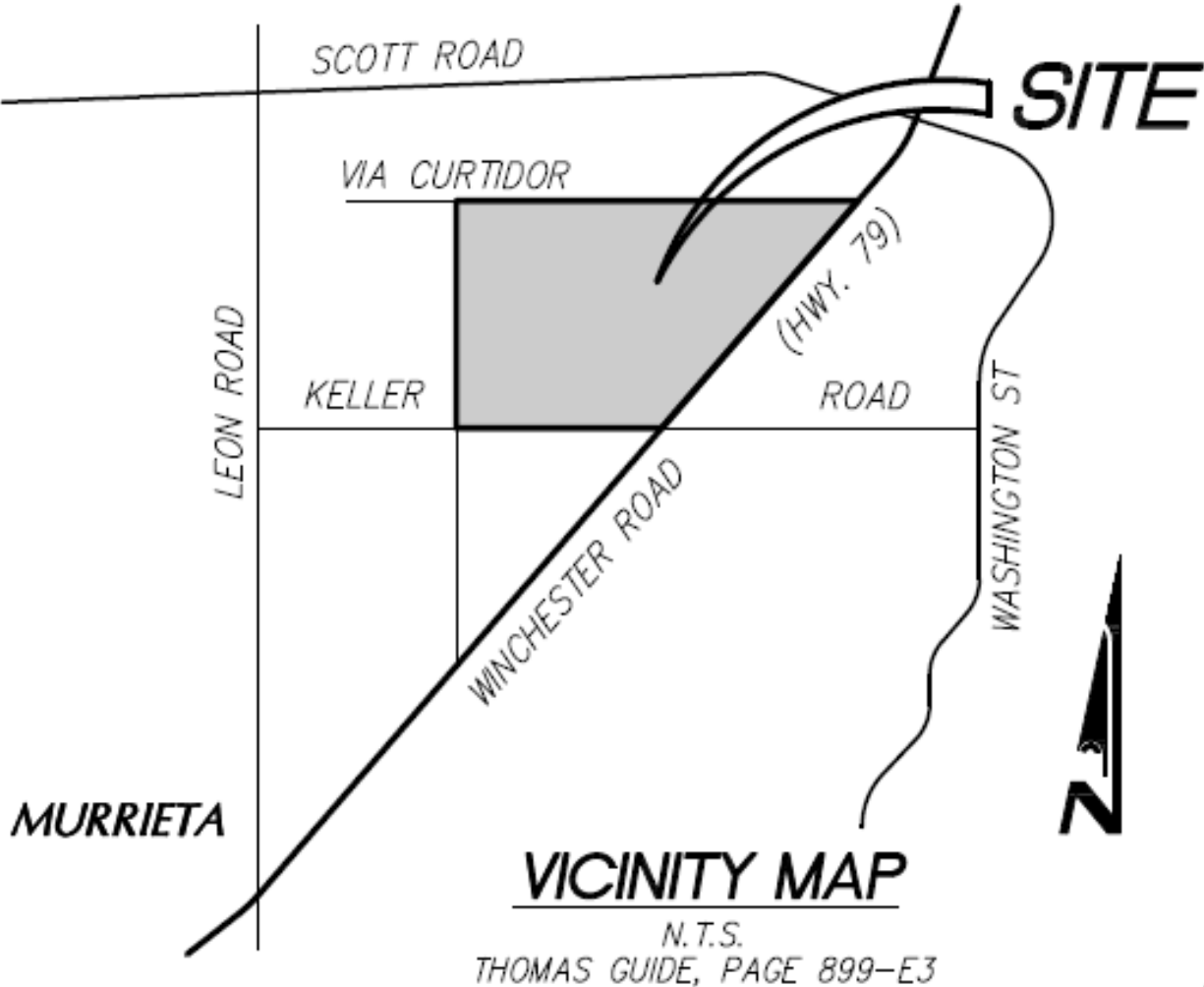
The existing pre-developed condition of the project displays the natural water courses of the site in which drainage water courses flow from the northerly higher elevation to south and southeasterly of the project which ultimately flow offsite toward and through several existing Caltrans reinforced concrete pipe (RCP) culvert-under-crossings along Winchester Road (Highway-79). A major drainage course, southwesterly of the project, conveys a significant tributary area runoff from the north and west areas of the site and surface-flows southeasterly across Pourroy Road and Keller Road. This water course continues southeasterly, adjacent to existing residential parcels, and crosses Winchester Road (Highway-79) via several Caltrans RCP culverts. Presently, there is no existing storm drain infrastructure on-site of the project and within Pourroy Road and Keller Road right of ways. The existing Caltrans culverts capacity were analyzed and compared with the developed peak flows from Keller Project. The detention basins are proposed to mitigate the developed peak flows from Keller Project will be less than existing Caltrans culvert capacity.

This report identifies the existing drainage patterns for the off-site flows and under full development conditions on-site flows. This is shown on the Hydrology Map – Proposed Condition in Figure 3.

This report also analyses the drainage from the project in the proposed, post-developed condition. Calculations are provided to verify onsite storm water runoff, off-site runoff onto the property, if any, and the drainage facilities and post-project BMPs required to mitigate post-developed water quality and post-development increases and/or decreases in peak flow and volume runoff. Comprehensive hydraulic calculations for proposed pipes and structures along with their details and specifications will be addressed during the final engineering of the project and in the “final” hydrology report.

The water quality features for this project are described in the separate report, ‘Project Specific Water Quality Management Report’ for Tract Map No. 38163.

The Project Area is shown on the Vicinity Map in **Figure 1** and the Location Map in **Figure 2**.



**Figure1: Vicinity Map**



**Figure 2: Location Map (Aerial – Existing Condition)**

## **Proposed Project**

The Keller Crossing development proposed pipes and pick up points are designed to convey off-site and on-site runoffs into detention basins to attenuate their flows, and ultimately discharge into their existing pre-developed water courses. The proposed on-site pipe sizes vary from 18-inch to 54-inch which will be maintained by RCFC&WCD or Riverside County Transportation Department. A 4-feet by 8-feet reinforced concrete box (RCB) culvert has been proposed to convey north and west offsite drainage flow under (re-aligned) Keller Road as part of this development. Additionally, a separate 36" pipe culvert is proposed alongside the 4-feet by 8-feet RCB in order to replicate the natural drainage water course during less intense but more frequent storm event, for the purpose of maintaining positive effect to lands adjacent to the existing water course. Once the 36" pipe culvert reaches its maximum capacity, the 4-feet by 8-feet RCB will accommodate the additional flow. The 4-feet by 8-feet RCB continues east on existing Old Keller Road and transitions to a larger 5-feet by 8-feet RCB at the Keller Flat Court intersection. The box continues east for approximately 650 feet past the Keller Flat Court intersection and turns south connecting back into the pre-developed natural drainage course. There is no plan to increase the sizes of the existing Caltrans RCP culverts under Winchester Road (Highway-79).

A combination of water quality and detention basin is placed south of the proposed re-aligned Keller Road and north of existing Keller Road to mitigate the majority of proposed development water quality volume and to detain on-site runoff volume to ensure that post-development volume does not exceed pre-development volume. Attenuated flow from this basin will be conveyed through a 36-inch pipe southerly to the proposed 5-feet by 8-feet RCB which eventually discharges into the pre-developed natural course south of the project. In addition, a smaller detention and water quality basin is proposed northeasterly of the commercial pad, adjacent to Winchester Road, to mitigate the proposed Open Space – Recreation (park) site, Very High Density Residential (VHDR) pad, and portion of Planning Area 5 – Medium Density Residential (MDR). All proposed basins and slopes surrounding them will be maintained by Valley-Wide Recreation and Park District. Pipes, inlet and outlet structures within the basins will be maintained by RCFC&WCD or Riverside County Transportation Department. Hydraulic calculations and storm drain pipes, inlet, and outlets structures details will be addressed and specified during the final engineering of the project and in the "final" hydrology report.

Post-construction water quality (WQMP) mitigation for the site will be managed by the two (2) WQ basins and two (2) WQ/detention basins which have water quality structural components to handle the required mitigation plus one (1) detention basin. However, upon final development of the Commercial Retail (CR) land use area, additional WQMP implementation might be necessary to satisfy Santa Margarita Watershed Management Area specific requirements – if required, this mitigation will be handled at the final engineering of the CR land use area. Details of pre-treatment of all land use planning areas for the post-construction water quality mitigation will be addressed in the Final Water Quality Management Plan (FWQMP).

DMA Identification

DMA Name or Identification	Surface Type(s) <sup>1</sup>	Area (Sq. Ft.)	DMA Type	
<b>Drainage Area A</b>				
Areas A-1 thru A-3 (57.6 Ac)	Natural (offsite)	2,509,056 sf	N/A	
DMA A-4a, Multi Family (6.20 Ac)	Mix surface	270,072 sf	TBD	
Area A-4b (1.78 Ac)	Street (offsite)	77,536 sf	N/A	
<b>Drainage Area B</b>				
DMA B1-1 thru B1-4, Residential (13.51 Ac)	Mix surface	588,495 sf	To be Determined	
DMA B1-5 (0.67 Ac)	WQ Basin	29,185 sf		
DMA B2, Park (5.32 Ac)	Mix surface & Ornamental Landscape	231,739 sf		
DMA B3, Detention Basin (3.67 Ac)	Ornamental Landscape	159,865 sf		
Areas B-4 thru B-7 (38.2 Ac)	Natural (offsite)	1,663,992 sf		
Areas B-8 & B-9 (2.45 Ac)	Street (offsite)	106,722 sf		
<b>Drainage Area C</b>				
DMA C1, Residential (72.34 Ac)	Mix surface	3,151,130 sf		
DMA C1, Commercial (12.75 Ac)	Mix surface	555,390 sf		
DMA C1, WQ/Detention Basin (5.65Ac)	Ornamental Landscape	246,114 sf		
Areas C-2 thru C-12 (253.37 Ac)	Natural (offsite)	11,036,797 sf		

Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID Receiving Runoff from DMA
DMA A-4a (Residential, Multi Family)	BMP A4a – WQ Biofiltration/Detention Basin
DMA B1-1 thru B1-4 (Residential)	BMP B1 – WQ Biofiltration Basin
DMA B2 (Park)	BMP B2 – WQ Biofiltration Basin
DMA C1 (Residential, Commercial and Basin)	BMP C1 – WQ Biofiltration/Detention Basin

Basin B-3: Detention Basin only, for drainage area B.

## HYDROLOGY

The hydrology calculations for determining the on-site peak flows and time of concentration (Tc) have been determined using the Rational Method by the CivilCADD / CivilDesign Engineering Software Program.

The rational method relates rainfall intensity, the ratio of runoff to rainfall, and the drainage area size to the peak storm runoff and is expressed by the equation:  $Q = CIA$ .

Where  $Q$  = runoff (in cubic feet per second),

$C$  = runoff coefficient relating the ratio of runoff to rainfall,

$I$  = rainfall intensity (in inches per hour),

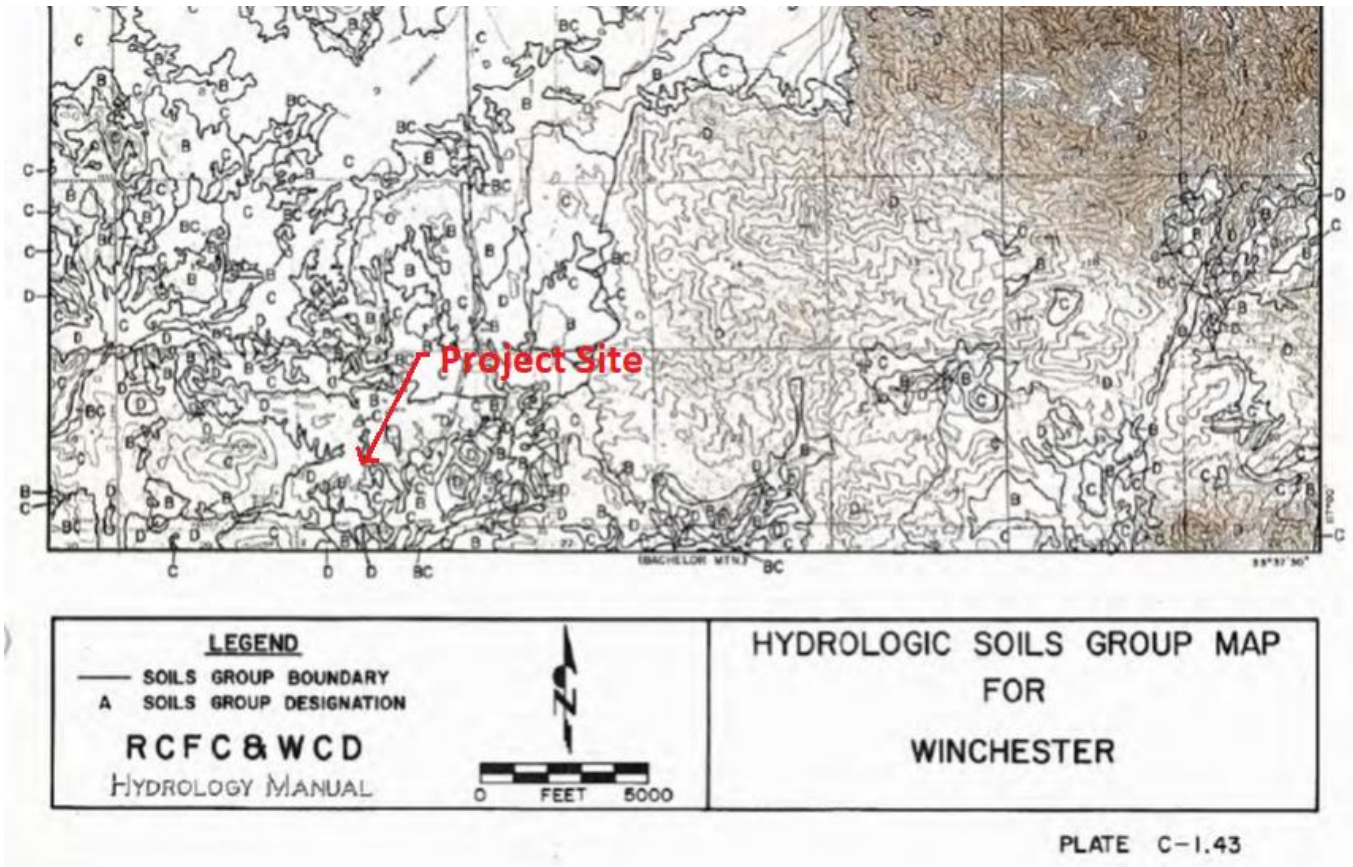
$A$  = drainage area (in acres).

The soil type used in the analysis is mixed Type Soil B, C and D per Hydrologic Soils Group Map for Winchester, Plate C-1.43 RCFC & WCD Hydrology Manual.

The rational method values were used for determining the pre-project (existing condition) and post-project (proposed condition) peak discharges for the 10-year and 100-year storm events.

The Hydrology Maps in **Figures 3a and 3b** summarizes the results of the rational method hydrologic analysis, including drainage areas, subareas, node numbers, elevations and cumulative  $Q_{10}$  and  $Q_{100}$  values at points of concentration or discharge in existing and proposed conditions.





**Hydrologic Soils Group for the project site**

The design discharge in the various sub-drainage areas considered in this study are listed below:

**Summary Hydrology – 10-year storm Existing Condition – Rational Method (see Attachment A for calculation):**

Drainage Area	Area in Acre	Q <sub>10</sub> sub-area in cfs	Q <sub>10</sub> conf. in cfs	Existing Caltrans Culvert
A-1	8.60	16.98		
A-2	20.20	33.89	50.87	
A-3	31.30	45.08	95.94	DS #8
A-4	5.80	12.62		DS #7
B-1	2.71	6.67		
B-2	4.98	10.14	16.81	
B-3	6.38	11.53	28.34	DS #6
B-4	9.79	17.92		
B-5	15.70	25.25	43.16	
B-6	22.40	28.89	72.06	
B-7	8.45	9.17	81.23	DS #5
C-1	8.59	15.66		
C-2	15.40	20.63	36.29	DS #4
C-3	8.82	16.51		
C-4	13.10	18.25	34.76	
C-5	34.10	47.91	82.67	
C-6	42.40	55.61	138.28	
C-7	30.50	36.90	175.18	
C-8	72.00	80.18	255.37	
C-9	19.20	20.00	275.37	
C-10	8.21	8.33	283.70	
C-11	6.52	5.63	289.32	
C-12	4.04	8.64		
C-13	18.30	31.58	40.21	
C-14	10.10	13.84	54.06	
C-15	20.10	27.78	81.84	
			351.32	
C-16	23.50	19.70	371.02	DS #3 & DS #2

**Summary Hydrology – 100-year storm Existing Condition – Rational Method (see Attachment A for calculation):**

Drainage Area	Area in Acre	Q <sub>100</sub> sub-area in cfs	Q <sub>100</sub> conf. in cfs	Existing Caltrans Culvert
A-1	8.60	28.72		
A-2	20.20	58.98	87.70	
A-3	31.30	80.78	168.48	DS #8
A-4	5.80	21.30		DS #7
B-1	2.71	11.24		
B-2	4.98	17.62	28.86	
B-3	6.38	20.36	49.22	DS #6
B-4	9.79	30.38		
B-5	15.70	43.79	74.17	
B-6	22.40	51.78	125.95	
B-7	8.45	17.08	143.03	DS #5
C-1	8.59	26.62		
C-2	15.40	37.00	63.61	DS #4
C-3	8.82	27.96		
C-4	13.10	32.49	60.44	
C-5	34.10	84.99	145.43	
C-6	42.40	99.92	245.35	
C-7	30.50	67.10	312.46	
C-8	72.00	147.64	460.09	
C-9	19.20	37.09	497.18	
C-10	8.21	15.60	512.78	
C-11	6.52	10.88	523.66	
C-12	4.04	14.58		
C-13	18.30	55.59	70.17	
C-14	10.10	25.19	95.36	
C-15	20.10	50.39	145.76	
			635.54	
C-16	23.50	38.17	673.71	DS #3 & DS #2

**Summary Hydrology – 10-year storm Developed Condition – Rational Method, with Detention Basins A, B, and C (see Attachment B for calculation):**

Drainage Area	Area in Acre	Q <sub>10</sub> sub-area in cfs	Q <sub>10</sub> conf. in cfs	Existing Caltrans Culvert
A-1	8.60	16.98		
A-2	20.20	33.89	50.87	
A-3	28.80	41.43	92.30	DS # 8
<b>WQ/Det. Basin “A-4a”</b>	<b>5.39</b>			
	<b>Basin A4 Max Outflow</b>	4.10 <sup>***</sup> )		
A-4b	1.78	1.32 <sup>*</sup> )	5.42	DS #7
B-4	9.79	17.92		
B-5	15.7	25.25	43.16	
B-6	10.6	15.02	58.19	
B-7	1.93	2.64	60.82	
<b>Det. Basin “B”</b>	<b>59.9</b>			
	<b>Basin B Max Outflow</b>	<b>12.118</b>		
B-8	1.20	0.89 <sup>*</sup> )	13.01	DS #6
<b>WQ Basin B1 “Residential” Areas B1-1 thru B1-4</b>	<b>14.22</b>			
	<b>WQ Basin B1 Max Outflow</b>	10.66 <sup>**</sup> )		
B-9	1.25	1.04 <sup>*</sup> )	11.70	DS #5
C-2	6.54	10.81		DS #4
C-3	8.82	16.51		
C-4	13.10	18.25	34.76	
C-5	34.10	47.91	82.67	
C-6	42.00	55.09	137.75	
C-7	30.50	36.90	174.65	
C-8	72.00	80.17	254.82	
C-9	11.40	12.37	267.19	
<b>WQ/Det. Basin “C1”</b>	<b>91.5</b>			
	<b>Basin C1 Max Outflow</b>	<b>18.31</b>	275.10	
C-10	3.87	7.95		
C-11	7.54	10.70	18.66	
		<b>Confl. =</b>	287.83	
C-12	23.50	20.48	308.31	DS #3 & DS #2

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\*) Subarea peak flow with mainline Tc.

\*\*\*) WQ basin only (the larger peak flow drains into Detention Basin B) peak flow

\*\*\*\*) Detention Basin A4 Outflow

**Summary Hydrology – 100-year storm Ultimate Condition – Rational Method, with Detention Basins A, B, and C (see Attachment B for calculation):**

Drainage Area	Area in Acre	Q <sub>100</sub> sub-area in cfs	Q <sub>100</sub> conf. in cfs	Existing Caltrans Culvert (Capacity in cfs)
A-1	8.60	28.72		
A-2	20.20	58.98	87.70	
A-3	28.80	74.26	161.96	<b>DS #8 (349.9)</b>
<b>WQ/Det. Basin “A-4a”</b>	<b>5.39</b>			
	<b>Basin A4 Max Outflow</b>	12.0 <sup>***)</sup>		
A-4b	1.78	2.20 <sup>*)</sup>	14.20	<b>DS #7 (32.8)</b>
B-4	9.79	30.38		
B-5	15.7	43.79	74.17	
B-6	10.6	26.58	100.75	
B-7	1.93	4.69	105.44	
<b>Det. Basin “B”</b>	<b>59.9</b>			
	<b>Basin B Max Outflow</b>	<b>16.382</b>		
B-8	1.20	0.35 <sup>*)</sup>	16.733	<b>DS #6 (18.7)</b>
<b>WQ Basin B1 “Residential” Areas B1-1 thru B1-4</b>	<b>14.22</b>			
	<b>WQ Basin B1 Max Outflow</b>	10.66 <sup>**)</sup>		
B-9	1.25	1.73 <sup>*)</sup>	12.393	<b>DS #5 (13.9)</b>
C-2	6.54	18.90		<b>DS #4 (30.7)</b>
C-3	8.82	27.96		
C-4	13.10	32.49	60.44	
C-5	34.10	84.99	145.43	
C-6	42.00	98.97	244.41	
C-7	30.50	67.10	311.50	
C-8	72.00	147.62	459.12	
C-9	11.40	22.82	481.94	
<b>WQ/Det. Basin “C1”</b>	<b>91.5</b>			
	<b>Basin C1 Max Outflow</b>	<b>78.75</b>	512.56	
C-10	3.87	13.49		
C-11	7.54	19.48	32.97	
		<b>Confl. =</b>	535.81	

C-12	23.50	39.43	575.73	DS #3 & DS #2 (721)

\*) Subarea peak flow with mainline Tc.

\*\*\*) WQ basin only (the larger peak flow drains into Detention Basin B) peak flow

\*\*\*\*) Detention Basin A4 Outflow

### Existing Downstream Drainage Facility:

The existing Caltrans culverts along Route 79 (Winchester Avenue) are the existing downstream Drainage Facility of the Keller Crossing project.

There are seven (7) culverts, Drainage System 2 thru Drainage System 8 per as-built Caltrans Contract Number 08-464624, dated 11/23/2015, as shown in Hydrology Map.

### Summary Existing Caltrans Culverts Capacity (see Attachment F for calculations):

Drainage System	Culvert Size	Pipe Slope	Pipe Capacity in cfs	Inlet Control Capacity in cfs	Existing Culvert Capacity in cfs
DS #2	84" RCP	S=0.0063	507.0	485.0	<b>721.0</b>
DS #3	60" RCP	S=0.0083	237.3	236.0	
DS #4	24" AP	S=0.0214	30.7	34.8	<b>30.7</b>
DS #5	24" RCP	S=0.0038	13.9	23.2	<b>13.9</b>
DS #6	24" RCP	S=0.0068	18.7	28.4	<b>18.7</b>
DS #7	24" AP	S=0.0253	33.4	32.8	<b>32.8</b>
DS #8	84" RCP	S=0.003	349.9	527.3	<b>349.9</b>



## HYDRAULICS

### Storm Drain System Calculations

The 'Open Channel, Pipe and Inlet Program Flow Master' by Bentley V8i, Reference 4, was used to determine the street capacity, ditch capacity and inlet sizing.

Main line system: the following assumptions and criteria were used to design the main line system:

1.  $n = 0.013$  for reinforced concrete pipe,
2.  $n = 0.014$  for reinforced concrete box,
3.  $n = 0.015$  for concrete V-ditch.
4. The minor losses considered in this study are as follows: friction loss, junction loss, transition loss, and manhole loss. In order to minimize junction structure losses, all junctions are entering the main line at an angle of approximately 45 degrees.

See Street Capacity and Catch Basin Sizing calculations in **Attachment G**.

**Figure 4** is the Catch Basin Sizing Map. For proposed Storm Drain inlet system, the catch basins were sized by using peak discharges for 100-year storm.

### Pipe Sizing Calculations

All proposed inlet and storm drain pipe will be sized to carry  $Q_{100}$ .

### **Summary Storm Drain Pipe sizing per peak discharge 100-year storm Ultimate Condition:**

Drainage Area	$Q_{100}$ sub-area in cfs	$Q_{100}$ conf. in cfs	Proposed Storm Drain Pipe
A-1	28.72		Natural, existing
A-2	58.98	87.70	Natural, existing
A-3	75.57	163.27	Natural, existing
<b>WQ/Det. Basin "A-4a"</b>	12.0	12.0	24" RCP, slope 1% min
A-4b	2.20	14.20	24" RCP, slope 1% min
B-3	11.43		Natural, existing
B-4	30.38		Natural, existing
B-5	43.79	74.17	Natural, existing
B-6	26.07	100.25	36" RCP, slope 2% min
B-6a	3.94	104.18	42" RCP, slope 2% min
<b>Det. Basin "B"</b>	(16.3)	16.3	24" RCP, slope 1% min
B-8	0.35	16.7	24" RCP, slope 1% min
<b>WQ Basin B1</b>	10.66		24" RCP, slope 1% min

<b>"Residential"</b> Areas B1-1 thru B1-4			
B-9	1.73	12.39	24" RCP, slope 1% min
C-2	16.93		Natural, existing
C-3	27.96		Natural, existing
C-4	32.49	60.44	Natural, existing
C-5	84.99	145.43	Natural, existing
C-6	98.97	244.41	Natural, existing
C-7	67.10	311.50	Natural, existing
C-8	147.62	459.12	Natural, existing
C-9	22.42	481.54	Culvert 5'x8' RCB, slope 2% min
C-10	10.26	491.80	Natural, existing
C-11	12.42	504.22	Natural, existing
<b>Det. Basin "C1"</b>	<b>78.75</b>	<b>536.86</b>	Natural, existing
C-12	38.54	577.27	Natural, existing

# Worksheet for Circular Pipe – 24” RCP with slope 1%

## Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

## Input Data

Roughness Coefficient	0.013	
Channel Slope	0.0100	ft/ft
Normal Depth	2.00	ft
Diameter	2.00	ft
Discharge	22.62	ft <sup>3</sup> /s

## Results

Discharge	22.62	ft <sup>3</sup> /s
Normal Depth	2.00	ft
Flow Area	3.14	ft <sup>2</sup>
Wetted Perimeter	6.28	ft
Hydraulic Radius	0.50	ft
Top Width	0.00	ft
Critical Depth	1.69	ft
Percent Full	100.0	%
Critical Slope	0.00946	ft/ft
Velocity	7.20	ft/s
Velocity Head	0.81	ft
Specific Energy	2.81	ft
Froude Number	0.00	
Maximum Discharge	24.33	ft <sup>3</sup> /s
Discharge Full	22.62	ft <sup>3</sup> /s
Slope Full	0.01000	ft/ft
Flow Type	SubCritical	

## GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

## GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

## GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	1.69	ft
Channel Slope	0.0100	ft/ft
Critical Slope	0.00946	ft/ft

# Rating Table for Circular Pipe - 24" to 96" RCP, slope 2% to 5%

## Project Description

Friction Method                      Manning Formula  
Solve For                                Full Flow Capacity

## Input Data

Roughness Coefficient                      0.013  
Channel Slope                                0.02000    ft/ft  
Normal Depth                                3.50        ft  
Diameter                                        3.50        ft  
Discharge                                      142.28     ft³/s

Diameter (ft)	Channel Slope (ft/ft)	Normal Depth (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
2.00	0.02000	2.00	31.99	10.18	3.14	6.28	0.00
2.00	0.03000	2.00	39.18	12.47	3.14	6.28	0.00
2.00	0.04000	2.00	45.24	14.40	3.14	6.28	0.00
2.00	0.05000	2.00	50.58	16.10	3.14	6.28	0.00
2.50	0.02000	2.50	58.00	11.82	4.91	7.85	0.00
2.50	0.03000	2.50	71.04	14.47	4.91	7.85	0.00
2.50	0.04000	2.50	82.03	16.71	4.91	7.85	0.00
2.50	0.05000	2.50	91.71	18.68	4.91	7.85	0.00
3.00	0.02000	3.00	94.32	13.34	7.07	9.42	0.00
3.00	0.03000	3.00	115.52	16.34	7.07	9.42	0.00
3.00	0.04000	3.00	133.39	18.87	7.07	9.42	0.00
3.00	0.05000	3.00	149.13	21.10	7.07	9.42	0.00
3.50	0.02000	3.50	142.28	14.79	9.62	11.00	0.00
3.50	0.03000	3.50	174.25	18.11	9.62	11.00	0.00
3.50	0.04000	3.50	201.21	20.91	9.62	11.00	0.00
3.50	0.05000	3.50	224.96	23.38	9.62	11.00	0.00
4.00	0.02000	4.00	203.13	16.16	12.57	12.57	0.00
4.00	0.03000	4.00	248.78	19.80	12.57	12.57	0.00
4.00	0.04000	4.00	287.27	22.86	12.57	12.57	0.00
4.00	0.05000	4.00	321.18	25.56	12.57	12.57	0.00
4.50	0.02000	4.50	278.09	17.49	15.90	14.14	0.00
4.50	0.03000	4.50	340.59	21.41	15.90	14.14	0.00
4.50	0.04000	4.50	393.28	24.73	15.90	14.14	0.00
4.50	0.05000	4.50	439.70	27.65	15.90	14.14	0.00
5.00	0.02000	5.00	368.30	18.76	19.63	15.71	0.00
5.00	0.03000	5.00	451.08	22.97	19.63	15.71	0.00
5.00	0.04000	5.00	520.86	26.53	19.63	15.71	0.00
5.00	0.05000	5.00	582.34	29.66	19.63	15.71	0.00
5.50	0.02000	5.50	474.88	19.99	23.76	17.28	0.00
5.50	0.03000	5.50	581.61	24.48	23.76	17.28	0.00
5.50	0.04000	5.50	671.58	28.27	23.76	17.28	0.00
5.50	0.05000	5.50	750.85	31.60	23.76	17.28	0.00
6.00	0.02000	6.00	598.90	21.18	28.27	18.85	0.00

6.00	0.03000	6.00	733.50	25.94	28.27	18.85	0.00
6.00	0.04000	6.00	846.97	29.96	28.27	18.85	0.00
6.00	0.05000	6.00	946.94	33.49	28.27	18.85	0.00
6.50	0.02000	6.50	741.40	22.34	33.18	20.42	0.00
6.50	0.03000	6.50	908.03	27.36	33.18	20.42	0.00
6.50	0.04000	6.50	1048.50	31.60	33.18	20.42	0.00
6.50	0.05000	6.50	1172.26	35.33	33.18	20.42	0.00
7.00	0.02000	7.00	903.40	23.47	38.48	21.99	0.00
7.00	0.03000	7.00	1106.43	28.75	38.48	21.99	0.00
7.00	0.04000	7.00	1277.59	33.20	38.48	21.99	0.00
7.00	0.05000	7.00	1428.39	37.12	38.48	21.99	0.00
7.50	0.02000	7.50	1085.88	24.58	44.18	23.56	0.00
7.50	0.03000	7.50	1329.92	30.10	44.18	23.56	0.00
7.50	0.04000	7.50	1535.66	34.76	44.18	23.56	0.00
7.50	0.05000	7.50	1716.92	38.86	44.18	23.56	0.00
8.00	0.02000	8.00	1289.80	25.66	50.27	25.13	0.00
8.00	0.03000	8.00	1579.68	31.43	50.27	25.13	0.00
8.00	0.04000	8.00	1824.06	36.29	50.27	25.13	0.00
8.00	0.05000	8.00	2039.36	40.57	50.27	25.13	0.00

# **HYDROGRAPHS**

## **Unit Hydrograph Analysis**

The unit hydrograph analysis was conducted using the CivilDesign Corporation Unit Hydrograph software and the Riverside County Hydrology Manual. In this study analysis, the goal was to estimate the quantity of storm water to be detained onsite to mitigate the increase in storm water peak discharge and volume resulting from this development. The 1-hour, 3-hour, 6-hour and 24-hour 2-, 5-, 10, 100-year storms hydrographs were computed to evaluate that the project peak runoff discharge originating from the site for ultimate/proposed conditions.

The ultimate condition-project hydrographs will be used as inflow hydrograph in detention basin routing with restricted outlet structure works.

### **Summary of Precipitation – Intensity Pattern per Hydrology Manual (NOAA Atlas 14):**

<b><i>Storm Event</i></b>	<b><i>1-hour</i></b>	<b><i>3-hour</i></b>	<b><i>6-hour</i></b>	<b><i>24-hour</i></b>
2-year	0.528	0.911	1.29	2.25
100-year	1.59	2.33	3.17	5.87

# NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

## Data description

Data type:  Units:  Time series type:

## Select location

### 1) Manually:

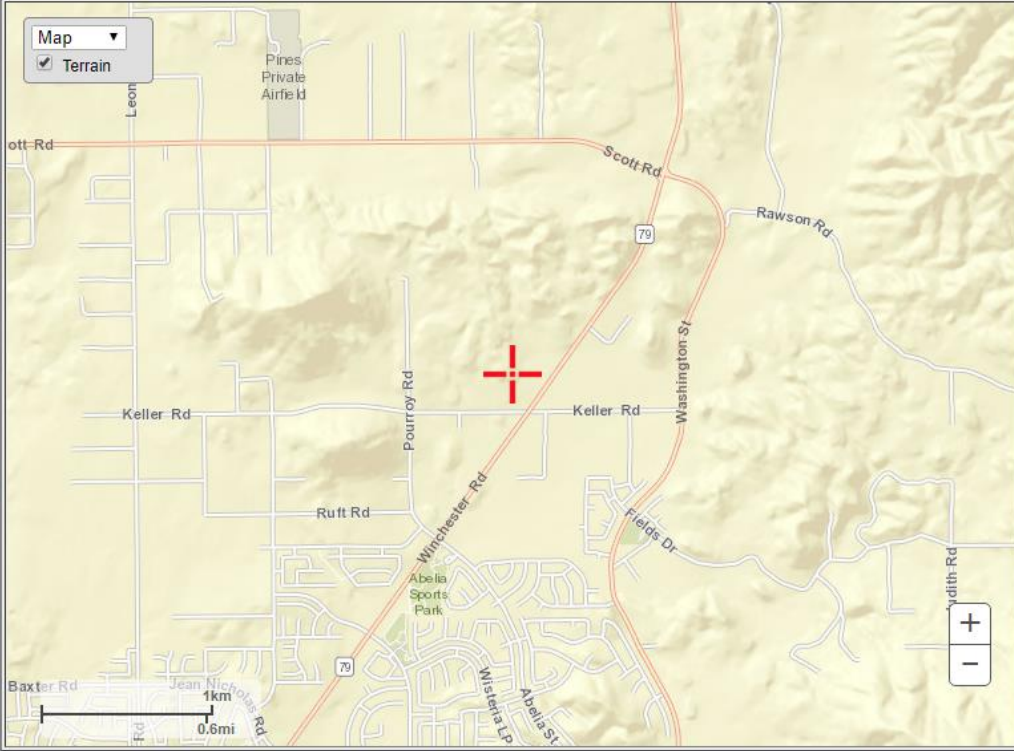
a) By location (decimal degrees, use "-" for S and W): Latitude:  Longitude:

b) By station (list of CA stations):

c) By address

2) Use map (if ESRI interactive map is not loading, try adding the host: <https://js.arcgis.com/> to the firewall, or contact us at [hdsc.questions@noaa.gov](mailto:hdsc.questions@noaa.gov)):

Map



**a) Select location**  
Move crosshair or double click

**b) Click on station icon**  
 Show stations on map

**Location information:**  
**Name:** Winchester, California, USA\*  
**Latitude:** 33.6292°  
**Longitude:** -117.0945°  
**Elevation:** 1467.97 ft\*\*

\* Source: ESRI Maps  
\*\* Source: USGS

**POINT PRECIPITATION FREQUENCY (PF) ESTIMATES**  
 WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION  
 NOAA Atlas 14, Volume 6, Version 2

PF tabular

PF graphical

Supplementary information

 Print page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.089 (0.074-0.107)	0.125 (0.105-0.151)	0.175 (0.146-0.212)	0.218 (0.180-0.266)	0.278 (0.222-0.352)	0.327 (0.255-0.422)	0.378 (0.288-0.502)	0.433 (0.320-0.592)	0.512 (0.362-0.731)	0.577 (0.394-0.854)
10-min	0.127 (0.107-0.153)	0.180 (0.151-0.217)	0.251 (0.210-0.304)	0.312 (0.258-0.381)	0.399 (0.318-0.504)	0.468 (0.366-0.605)	0.542 (0.413-0.719)	0.621 (0.459-0.849)	0.734 (0.520-1.05)	0.827 (0.564-1.22)
15-min	0.154 (0.129-0.185)	0.217 (0.182-0.262)	0.304 (0.254-0.368)	0.378 (0.313-0.461)	0.482 (0.385-0.610)	0.566 (0.442-0.732)	0.655 (0.499-0.869)	0.751 (0.555-1.03)	0.888 (0.628-1.27)	1.00 (0.683-1.48)
30-min	0.244 (0.204-0.294)	0.345 (0.288-0.416)	0.482 (0.402-0.583)	0.599 (0.495-0.731)	0.764 (0.610-0.966)	0.897 (0.701-1.16)	1.04 (0.791-1.38)	1.19 (0.880-1.63)	1.41 (0.996-2.01)	1.59 (1.08-2.35)
60-min	0.373 (0.313-0.450)	0.528 (0.442-0.637)	0.738 (0.616-0.893)	0.916 (0.758-1.12)	1.17 (0.934-1.48)	1.37 (1.07-1.78)	1.59 (1.21-2.11)	1.82 (1.35-2.49)	2.15 (1.52-3.08)	2.43 (1.66-3.59)
2-hr	0.554 (0.465-0.668)	0.750 (0.628-0.905)	1.01 (0.844-1.22)	1.23 (1.01-1.50)	1.53 (1.22-1.93)	1.76 (1.38-2.28)	2.00 (1.53-2.66)	2.26 (1.67-3.09)	2.62 (1.85-3.74)	2.90 (1.98-4.29)
3-hr	0.684 (0.573-0.824)	0.911 (0.763-1.10)	1.21 (1.01-1.47)	1.46 (1.21-1.78)	1.80 (1.44-2.27)	2.06 (1.61-2.67)	2.33 (1.78-3.10)	2.62 (1.94-3.58)	3.01 (2.13-4.29)	3.32 (2.26-4.91)
6-hr	0.979 (0.820-1.18)	1.29 (1.08-1.56)	1.69 (1.41-2.05)	2.02 (1.68-2.47)	2.47 (1.98-3.13)	2.82 (2.20-3.65)	3.17 (2.42-4.21)	3.54 (2.62-4.83)	4.04 (2.86-5.76)	4.43 (3.02-6.55)
12-hr	1.29 (1.08-1.55)	1.70 (1.43-2.05)	2.25 (1.88-2.72)	2.69 (2.23-3.28)	3.30 (2.63-4.17)	3.77 (2.94-4.87)	4.25 (3.23-5.63)	4.74 (3.51-6.48)	5.42 (3.84-7.74)	5.96 (4.07-8.82)
24-hr	1.68 (1.48-1.93)	2.25 (1.98-2.60)	3.00 (2.65-3.48)	3.63 (3.17-4.24)	4.49 (3.80-5.42)	5.17 (4.29-6.36)	5.87 (4.75-7.39)	6.60 (5.20-8.53)	7.61 (5.76-10.2)	8.41 (6.16-11.7)
2-day	1.99 (1.76-2.29)	2.72 (2.40-3.14)	3.69 (3.25-4.28)	4.50 (3.93-5.26)	5.63 (4.77-6.79)	6.52 (5.41-8.03)	7.45 (6.04-9.38)	8.43 (6.65-10.9)	9.79 (7.42-13.2)	10.9 (7.98-15.1)
3-day	2.10 (1.86-2.42)	2.91 (2.57-3.36)	3.99 (3.52-4.62)	4.90 (4.28-5.72)	6.18 (5.23-7.45)	7.19 (5.96-8.84)	8.25 (6.68-10.4)	9.37 (7.39-12.1)	10.9 (8.30-14.7)	12.2 (8.96-17.0)
4-day	2.25 (1.99-2.59)	3.14 (2.77-3.63)	4.35 (3.83-5.04)	5.36 (4.68-6.26)	6.79 (5.75-8.19)	7.93 (6.58-9.76)	9.13 (7.40-11.5)	10.4 (8.21-13.5)	12.2 (9.25-16.4)	13.7 (10.0-19.0)
7-day	2.52 (2.22-2.90)	3.57 (3.15-4.13)	5.01 (4.41-5.81)	6.23 (5.45-7.28)	7.97 (6.74-9.61)	9.37 (7.77-11.5)	10.8 (8.79-13.7)	12.4 (9.80-16.1)	14.7 (11.1-19.8)	16.5 (12.1-23.0)
10-day	2.67 (2.36-3.08)	3.83 (3.38-4.42)	5.41 (4.76-6.27)	6.76 (5.91-7.90)	8.70 (7.36-10.5)	10.3 (8.51-12.6)	11.9 (9.66-15.0)	13.7 (10.8-17.7)	16.3 (12.3-21.9)	18.4 (13.5-25.6)
20-day	3.19 (2.82-3.68)	4.62 (4.08-5.34)	6.61 (5.82-7.66)	8.32 (7.27-9.72)	10.8 (9.15-13.0)	12.9 (10.7-15.8)	15.1 (12.2-19.0)	17.5 (13.8-22.6)	20.9 (15.9-28.2)	23.8 (17.5-33.2)
30-day	3.74 (3.31-4.32)	5.41 (4.78-6.25)	7.75 (6.82-8.98)	9.79 (8.55-11.4)	12.8 (10.8-15.4)	15.2 (12.6-18.7)	17.9 (14.5-22.6)	20.9 (16.5-27.0)	25.2 (19.1-33.9)	28.8 (21.1-40.1)
45-day	4.42 (3.91-5.10)	6.31 (5.57-7.29)	8.98 (7.91-10.4)	11.3 (9.90-13.2)	14.8 (12.5-17.9)	17.7 (14.7-21.8)	20.9 (16.9-26.3)	24.4 (19.3-31.6)	29.7 (22.5-40.0)	34.2 (25.0-47.5)
60-day	5.15 (4.55-5.94)	7.23 (6.38-8.35)	10.2 (8.98-11.8)	12.8 (11.2-15.0)	16.7 (14.2-20.2)	20.1 (16.6-24.7)	23.7 (19.2-29.9)	27.8 (21.9-36.0)	33.9 (25.7-45.7)	39.2 (28.7-54.5)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

See **Attachment C** for Inflow Hydrographs, Existing and Proposed Conditions



<u>ACTUAL IMPERVIOUS COVER</u>		
Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent (2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90
<p>Notes:</p> <ol style="list-style-type: none"> <li>1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.</li> <li>2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.</li> <li>3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.</li> </ol>		
<b>RCFC &amp; WCD</b> HYDROLOGY MANUAL	<b>IMPERVIOUS COVER FOR DEVELOPED AREAS</b>	

PLATE D-5.6

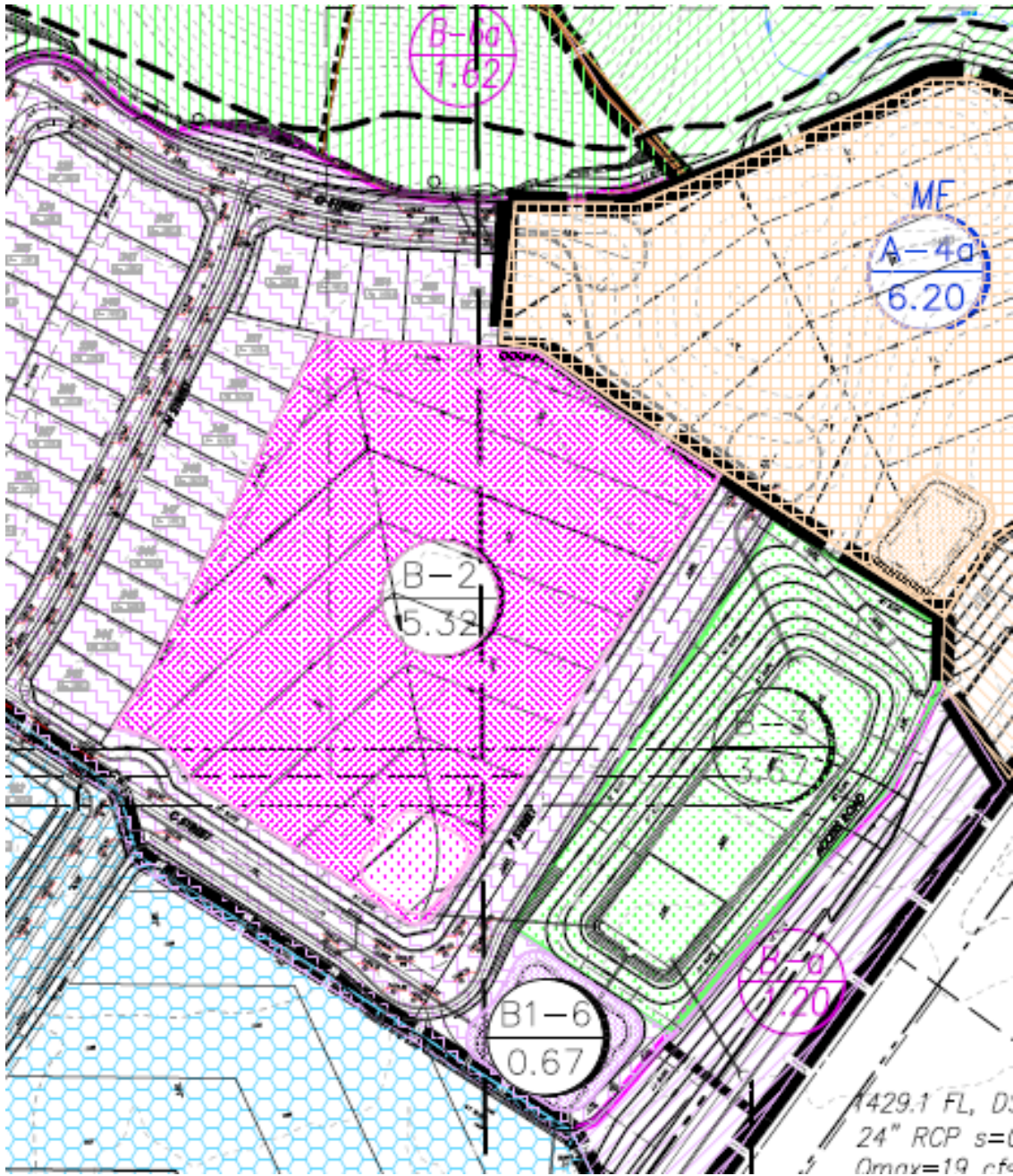
## **DETENTION BASIN ROUTING for HYDROMODIFICATION**

The proposed project Water Quality Biofiltration Basin is capable of all the following:

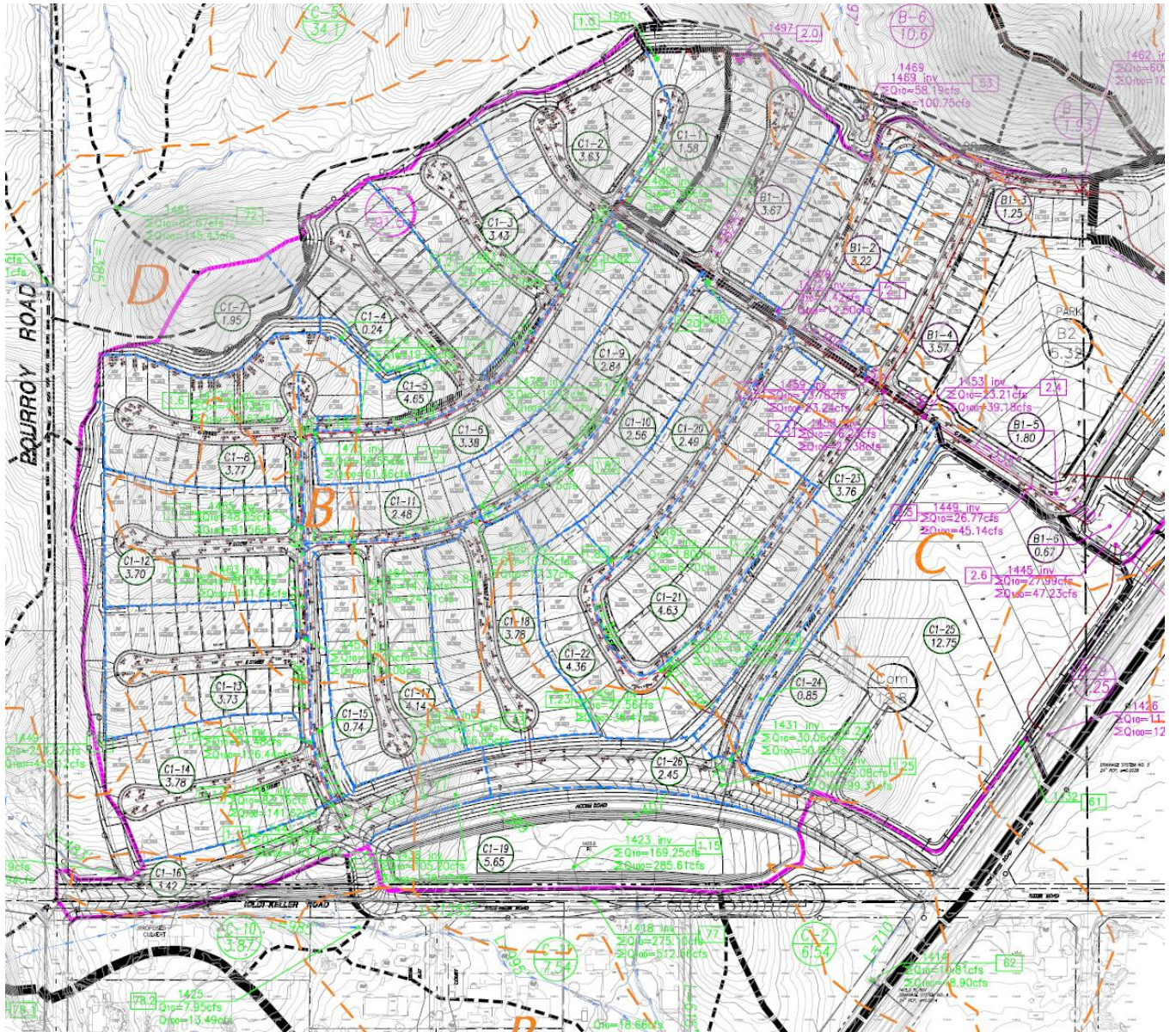
1. Releasing the post-development hydrograph for 2-, 5-, 10- and 100-year 1-, 3-, 6- and 24-hour at flow rates no greater than 110% of pre-development at the same frequency flow rates.
2. By-passing the 100-year storm event without damage to the BMP.
3. Control outlet velocities such that downstream erosion potential is minimized and outlet flow is released in a safe manner.

### **Detention Basin Routing Calculations**

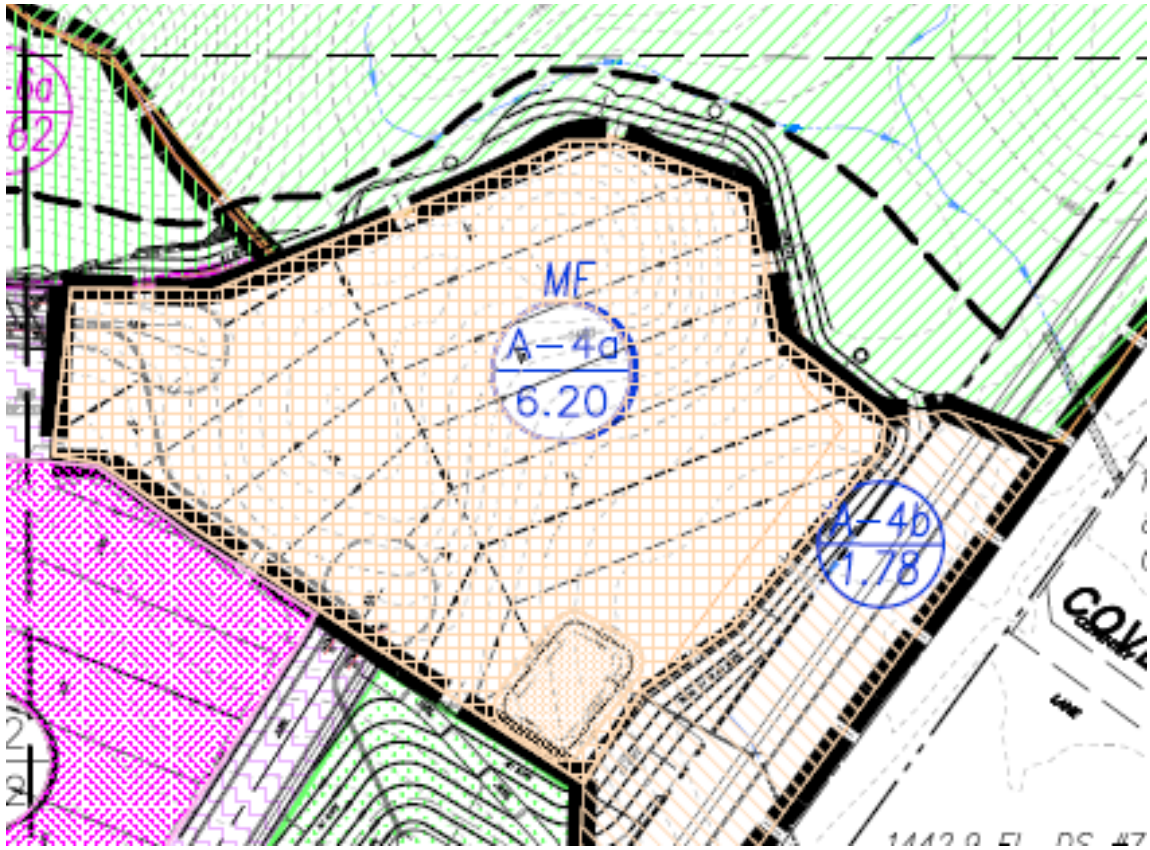
The Detention Basin Routing Calculations were conducted using the CivilCADD/Design software and the Riverside County Hydrology Manual. In this analysis, the goal was to estimate the quantity of storm water to be detained onsite to mitigate the increase in storm water peak discharge and volume resulting from this development for the 2-, 5-, 10-, 100-year 1-hour, 3-hour, 6-hour, 24-hour storms.



**Drainage Area B = 59.9 Ac – to Detention Basin B**



**Drainage Area C = 91.5 ac - to WQ/Detention Basin C**



**Drainage Area A-4a = 6.20 ac - to WQ/Detention Basin A4**

# Storage and Outflow Detention Basin B Rating Curve:

Storage Rating Curve					
Detention Basin B (59.9 Ac)					
Elev.	Depth	Area (sf)	Vol. inc. (cf)	Vol. Accum. (cf)	Vol. Accum. (Acft)
33	0	0			0
34	1	841	420.5	420.5	0.01
35	2	9967	5404	5824.5	0.13
36	3	21442	15704.5	21529	0.49
37	4	34224	27833	49362	1.13
38	5	44281	39252.5	88614.5	2.03
39	6	47273	45777	134391.5	3.09
40	7	50241	48757	183148.5	4.20
41	8	53372	51806.5	234955	5.39
42	9	56465	54918.5	289873.5	6.65
43	10	59614	58039.5	347913	7.99
44	11	62820	61217	409130	9.39
45	12	66083	64451.5	473581.5	10.87
46	13	69402	67742.5	541324	12.43
47	14	73193	71297.5	612621.5	14.06

## Keller Project - Drainage Area B = 59.9 Ac

### County of Riverside

### Proposed Detention Basin Area B

			Headwater Stage 1	Stage 1 Orifice A=0.79 sf	Stage 2 Orifice A=0.79 sf	Spillway	Total Outflow
Elev (ft)	Depth (ft)	Vol (ac-ft)	Depth (ft)	1ea-12" Opening	1ea-6" Opening	30' Opening	<b>Q total</b> (cfs)
				1433	1433	1445	
1433	0	0	0	0	0	0	<b>0.00</b>
1434	1	0.01	1	4.22	0.91	0	<b>5.13</b>
1435	2	0.130	2	5.97	1.4	0	<b>7.37</b>
1436	3	0.490	3	7.31	1.75	0	<b>9.06</b>
1437	4	1.130	4	8.44	2.04	0	<b>10.48</b>
1438	5	2.030	5	9.44	2.3	0	<b>11.74</b>
1439	6	3.090	6	10.34	2.53	0	<b>12.87</b>
1440	7	4.200	7	11.17	2.74	0	<b>13.91</b>
1441	8	5.390	8	11.94	2.94	0	<b>14.88</b>
1442	9	6.650	9	12.66	3.12	0	<b>15.78</b>
1443	10	7.990	10	13.35	3.3	0	<b>16.65</b>
1444	11	9.390	11	14	3.46	0	<b>17.46</b>
1445	12	10.870	12	14.62	3.62	0	<b>18.24</b>
1446	13	12.430	13	15.22	3.77	90	<b>108.99</b>
1447	14	14.060	14	15.79	3.91	254.56	<b>274.26</b>

For Water Quality Mitigation Drainage Area B1-1 thru B1-5 (Residential – 13.51 Ac), Drainage Area B2 (Park – 5.32 Ac), see PWQMP for Keller Crossing project.

# Rating Table for Circular Orifice - 12" diameter opening

Project Description

Solve For Headwater Elevation

Input Data

Discharge	1.51	ft <sup>3</sup> /s
Centroid Elevation	0.50	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.67	
Diameter	1.00	ft

Discharge (ft <sup>3</sup> /s)	Headwater Elevation (ft)	Velocity (ft/s)
0.00		
1.00	0.56	1.27
2.00	0.72	2.55
3.00	1.01	3.82
4.00	1.40	5.09
5.00	1.90	6.37
6.00	2.52	7.64
7.00	3.25	8.91
8.00	4.09	10.19
9.00	5.05	11.46
10.00	6.11	12.73
11.00	7.29	14.01
12.00	8.58	15.28
13.00	9.98	16.55
14.00	11.50	17.83
15.00	13.13	19.10



## Rating Table for Circular Orifice - 6" opening

### Project Description

Solve For Discharge

### Input Data

Headwater Elevation	1.00	ft
Centroid Elevation	0.25	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.67	
Diameter	0.50	ft

Headwater Elevation (ft)	Discharge (ft <sup>3</sup> /s)	Velocity (ft/s)
0.00		
1.00	0.91	4.65
2.00	1.40	7.11
3.00	1.75	8.91
4.00	2.04	10.41
5.00	2.30	11.71
6.00	2.53	12.89
7.00	2.74	13.96
8.00	2.94	14.96
9.00	3.12	15.90
10.00	3.30	16.78
11.00	3.46	17.62
12.00	3.62	18.42
13.00	3.77	19.19
14.00	3.91	19.93
15.00	4.05	20.64

# Rating Table for Generic Weir - 30 LF Spillway

## Project Description

Solve For                                      Discharge

## Input Data

Headwater Elevation	1.00	ft
Crest Elevation	0.00	ft
Weir Coefficient	3.00	US
Crest Length	30.00	ft

Headwater Elevation (ft)	Discharge (ft <sup>3</sup> /s)	Velocity (ft/s)
0.00		
0.50	31.82	2.12
1.00	90.00	3.00
1.50	165.34	3.67
2.00	254.56	4.24
2.50	355.76	4.74
3.00	467.65	5.20

## Storage and Outflow WQ/Detention Basin C Rating Curve:

<b>Keller Project - Drainage Area C = 91.5 Ac</b>									
<b>County of Riverside</b>									
<b>Proposed WQ/Detention Basin Area C</b>									
Elev	Depth	Vol	Headw ater Stage 1	Vol	Headw ater Stage 2	Stage 2 Orifice A=0.09 sf	Stage 2 Orifice A=0.09 sf	Stage 3 Spillw ay	Total Outflow
(ft)	(ft)	(ac-ft)	Depth	(ac-ft)	Depth	1ea-4" Opening	1ea-4" Opening	10' Opening	<b>Q total</b>
			(ft)		(ft)	1423	1425	1428	(cfs)
1423	0.0	0	WQ Vol		0.0	0	0	0	<b>0.00</b>
1424	1.0	1.422	WQ Vol		1.0	0.82	0	0	<b>0.00</b>
1425	2.0	2.969	WQ Vol	0	2.0	1.2	0	0	<b>0.00</b>
1426	3.0	4.662	1.0	1.693	3.0	1.5	0.41	0	<b>1.91</b>
1427	4.0	6.774	2.0	3.806	4.0	1.74	0.6	0	<b>2.34</b>
1428	5.0	9.503	3.0	6.534	5.0	1.96	0.75	0	<b>2.71</b>
1429	6.0	12.709	4.0	9.741	6.0	2.16	0.87	0	<b>3.03</b>
1430	7.0	16.244	5.0	13.275	7.0	2.34	0.98	30	<b>33.32</b>
1431	8.0	19.234	6.0	16.265	8.0	2.5	1.08	84.85	<b>88.43</b>

For Water Quality Mitigation Drainage Area C (91.5 Ac), see PWQMP for Keller Crossing project.

# Rating Table for Circular Orifice - 4" diameter opening

Project Description

Solve For Discharge

Input Data

Headwater Elevation	3.10	ft
Centroid Elevation	0.17	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.65	
Diameter	0.33	ft

Headwater Elevation (ft)	Discharge (ft <sup>3</sup> /s)	Velocity (ft/s)
0.00		
1.00	0.41	4.76
2.00	0.60	7.06
3.00	0.75	8.78
4.00	0.87	10.21
5.00	0.98	11.46
6.00	1.08	12.59
7.00	1.17	13.63
8.00	1.25	14.59
9.00	1.33	15.50
10.00	1.40	16.35
11.00	1.47	17.16
12.00	1.53	17.94
13.00	1.60	18.68
14.00	1.66	19.39
15.00	1.72	20.08

# Rating Table for Generic Weir - 10 LF Spillway

**Project Description**

Solve For Discharge

**Input Data**

Headwater Elevation 1.50 ft  
 Crest Elevation 0.00 ft  
 Weir Coefficient 3.00 US  
 Crest Length 10.00 ft

Headwater Elevation (ft)	Discharge (ft <sup>3</sup> /s)	Velocity (ft/s)
0.00		
0.50	10.61	2.12
1.00	30.00	3.00
1.50	55.11	3.67
2.00	84.85	4.24
2.50	118.59	4.74
3.00	155.88	5.20
3.50	196.44	5.61
4.00	240.00	6.00
4.50	286.38	6.36
5.00	335.41	6.71

**Summary of Hydrographs and Basin Routing:  
 Drainage Area B – 59.9 Ac (use WQ basin for 2- thru 10-yr mitigation, see below and WQMP  
 for complete report):**

<b>Storm Frequency</b>	<b>DS #6 Culvert Capacity <math>Q_{max}</math> (cfs) [1]</b>	<b>Proposed <math>Q_{INFLOW}</math> (cfs)</b>	<b>Det. Basin Outlet <math>Q_{OUTFLOW}</math> (cfs) [2]</b>	<b>Different [2] – [1] (cfs)</b>	<b>Different [2] – [1] (%)</b>
10-year 1-hour	18.7	82.730	12.118	-70.612	-85%
25-year 1-hour	18.7	107.726	13.207	-94.519	-88%
100-year 1-hour	18.7	152.673	15.068	-137.605	-90%
100-year 3-hour	18.7	102.586	15.787	-86.799	-85%
100-year 6-hour	18.7	91.965	16.060	-75.905	-83%
100-year 24-hour	18.7	40.754	<b>16.382</b>	-24.372	-60%

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## Santa Margarita Region - County HydroMod Iterative Spreadsheet Model

*Only for use the unincorporated portions of Riverside County, unless otherwise approved by the Co-Permittee*

Development Project Number(s):	Keller Project	Rain Gauge:	Wildomar/North Murrieta
Latitude (decimal format):	33.62048	BMP Type (per WQMP):	Residential - Area B = 14.22 Ac
Longitude (decimal format):	117.104563	BMP Number (Sequential):	

	Pre-Development - Hydrology Information			
Pre-Development	DRAINAGE AREA (ACRES) - 10 acre max <sup>1</sup>	14.22	2-YEAR, 1-HOUR INTENSITY (IN/HR) - Plate D-4.3	0.617
	LONGEST WATERCOURSE (FT) - 1,000' max <sup>1</sup>	1630	10-YEAR, 1-HOUR INTENSITY (IN/HR) - Plate D-4.1	0.98
	UPSTREAM ELEVATION OF WATERCOURSE (FT)	1498	SLOPE OF THE INTENSITY DURATION - Plate D-4.6	0.48
	DOWNSTREAM ELEV. OF WATERCOURSE (FT)	1455	CLOSEST IMPERVIOUS PERCENTAGE (%)	0% Undeveloped - Good Cover
	EXISTING IMPERVIOUS PERCENTAGE (%)	0		
	Use 10% of Q2 to avoid Field Screening requirements	Yes		

	Pre-Development - Soils Information										
Pre-Development	Cover Type #	Subarea Acreage	Cover Type	Vegetative Cover	Soil A %	Soil B %	Soil C %	Soil D %	RI Index AMC I	RI Index AMC II	RI Index AMC III
	32	14.22 Ac.	Pasture, Dryland	Poor Cover	0	20	30	50	72	86	94
									0	0	0
									0	0	0
		14.22 Ac.							<b>Weighted Average RI Numbers =</b>		
								<b>72.0</b>	<b>86.0</b>	<b>94.0</b>	

Per Dr. Luis Parra, the AMC condition is based on the rainfall record. Applying NEH-4 (1964) for the non-freezing conditions in Riverside County the AMC conditions are: AMC-I for less than 0.5" of rain the previous 5 days; AMC-II for between 0.5" to 1.1" of rain the previous 5 days; or AMC-III for more than 1.1" for the previous 5 days.

	Pre-Development - Calculated Range of Flow Rates analyzed for Hydromod (Suceptible Range of Flows)			
Pre-Development	Calculated Upper Flow-rate limit		Calculated Lower Flow-rate limit	
	Ex. 10-year Flowrate <sup>1</sup> =	10.659 cfs	Ex. 10% of the 2-year Flowrate <sup>1</sup> =	0.773 cfs
	(Co-Permittee Approval is required) User-Defined Discharge Values with accompanying Hydrology Study <sup>1</sup>			
	Ex. 10-year Flowrate (Attach Study) =	cfs	Ex. 2-year Flowrate (Attach Study) =	cfs

<sup>1</sup>The equations used to determine the 10-year and 10% of the 2-yr are limited to 10-acres and 1,000'. Flowrates from a separate study can be used to over-ride the calculated values so that larger areas (up to 20 acres) and longer watercourse lengths can be used. All values still need to be filled out, even when there is a user-defined discharge value entered.

	Post-Project - Hydrograph Information			
Post-Project	DRAINAGE AREA (ACRES)	14.22	Go to "BMP Design" tab to design your BMP, then check results below. Print both this "HydroMod" Sheet and the "BMP Design" sheet for your submittal.	
	LONGEST WATERCOURSE (FT)	1630		
	DIFFERENCE IN ELEV (FT) - along watercourse	43		
	PROPOSED IMPERVIOUS PERCENTAGE (%)	65		

	Post-Project - Soils Information										
Post-Project	Cover Type #	Subarea Acreage	Cover Type	Vegetative Cover	Soil A %	Soil B %	Soil C %	Soil D %	RI Index AMC I	RI Index AMC II	RI Index AMC III
	22	14.22 Ac.	Urban Landscaping	Good Cover		20	30	50	50	69	84
									0	0	0
									0	0	0
		14.22 Ac.							<b>Weighted Average RI Numbers =</b>		
								<b>50.0</b>	<b>69.0</b>	<b>84.0</b>	

Per Dr. Luis Parra, the AMC condition is based on the rainfall record. Applying NEH-4 (1964) for the non-freezing conditions in Riverside County the AMC conditions are: AMC-I for less than 0.5" of rain the previous 5 days; AMC-II for between 0.5" to 1.1" of rain the previous 5 days; or AMC-III for more than 1.1" for the previous 5 days.

	Hydromod Ponded depth	1.40 feet	First result out of compliance in the rainfall record				See below for the Height in the Basin (Stage) that is causing a non-compliant result	
	Hydromod Drain Time (unclogged)	36.01 hours	Requirement		Proposed			
	Is the HydroMod BMP properly sized?	Yes, this is acceptable	---	---	---	---		
Results	Mitigated Q < 110% of Pre-Dev. Q?	Yes, this is acceptable	---	---	---	---	Issue @ Stage =	---
	Mitigated Duration < 110% of Pre-Dev?*	Yes, this is acceptable	---	---	---	---	Issue @ Stage =	---

Responsible-in-charge: \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Spreadsheet Developed by: Benjie Cho, P.E.

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**BMP Design** Fill in blue shaded areas

<b>0.1</b>	<b>feet, Stage Intervals</b>	Increase intervals or decrease height Height is above the limits of this sheet	<b>Stage-Storage-Discharge*</b>																																																																																																																																																																								
<p><b>PROPOSED BMP DIMENSIONS</b></p> <p><b>STEP1:</b> Size the BMP, so that the Total Volume &gt; Max HydroMod Vol. (Deeper is ok, it will be refined in the Design Geometry)</p> <p>Is the BMP a Tank shape? <input type="text" value="2"/> 1 for yes; 2 for no.</p>			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Stage (FT)</th> <th>Storage (AC-FT)</th> <th>Storage (FT<sup>3</sup>)</th> <th>Q (CFS)</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0.10</td><td>0.017</td><td>725</td><td>0.03</td></tr> <tr><td>0.20</td><td>0.034</td><td>1460</td><td>0.11</td></tr> <tr><td>0.30</td><td>0.051</td><td>2206</td><td>0.20</td></tr> <tr><td>0.40</td><td>0.068</td><td>2962</td><td>0.26</td></tr> <tr><td>0.50</td><td>0.086</td><td>3729</td><td>0.30</td></tr> <tr><td>0.60</td><td>0.103</td><td>4506</td><td>0.34</td></tr> <tr><td>0.70</td><td>0.122</td><td>5294</td><td>0.37</td></tr> <tr><td>0.80</td><td>0.140</td><td>6093</td><td>0.64</td></tr> <tr><td>0.90</td><td>0.158</td><td>6902</td><td>1.30</td></tr> <tr><td>1.00</td><td>0.177</td><td>7722</td><td>1.67</td></tr> <tr><td>1.10</td><td>0.196</td><td>8553</td><td>1.96</td></tr> <tr><td>1.20</td><td>0.216</td><td>9395</td><td>2.21</td></tr> <tr><td>1.30</td><td>0.235</td><td>10248</td><td>2.42</td></tr> <tr><td>1.40</td><td>0.255</td><td>11113</td><td>2.62</td></tr> <tr><td>1.50</td><td>0.275</td><td>11988</td><td>2.81</td></tr> <tr><td>1.60</td><td>0.296</td><td>12875</td><td>2.98</td></tr> <tr><td>1.70</td><td>0.316</td><td>13773</td><td>3.15</td></tr> <tr><td>1.80</td><td>0.337</td><td>14682</td><td>3.30</td></tr> <tr><td>1.90</td><td>0.358</td><td>15603</td><td>3.45</td></tr> <tr><td>2.00</td><td>0.380</td><td>16536</td><td>3.59</td></tr> <tr><td>2.10</td><td>0.401</td><td>17480</td><td>3.73</td></tr> <tr><td>2.20</td><td>0.423</td><td>18436</td><td>3.86</td></tr> <tr><td>2.30</td><td>0.445</td><td>19404</td><td>3.98</td></tr> <tr><td>2.40</td><td>0.468</td><td>20383</td><td>4.11</td></tr> <tr><td>2.50</td><td>0.491</td><td>21375</td><td>4.23</td></tr> <tr><td>2.60</td><td>0.514</td><td>22379</td><td>4.34</td></tr> <tr><td>2.70</td><td>0.537</td><td>23394</td><td>4.46</td></tr> <tr><td>2.80</td><td>0.561</td><td>24422</td><td>4.57</td></tr> <tr><td>2.90</td><td>0.585</td><td>25462</td><td>4.67</td></tr> <tr><td>3.00</td><td>0.609</td><td>26514</td><td>4.78</td></tr> <tr><td>3.10</td><td>0.633</td><td>27579</td><td>4.88</td></tr> <tr><td>3.20</td><td>0.658</td><td>28656</td><td>4.98</td></tr> <tr><td>3.30</td><td>0.683</td><td>29745</td><td>5.08</td></tr> <tr><td>3.40</td><td>0.708</td><td>30847</td><td>5.18</td></tr> <tr><td>3.50</td><td>0.734</td><td>31962</td><td>5.27</td></tr> <tr><td>3.60</td><td>0.760</td><td>33089</td><td>5.37</td></tr> <tr><td>3.70</td><td>0.786</td><td>34230</td><td>5.46</td></tr> <tr><td>3.80</td><td>0.812</td><td>35383</td><td>5.55</td></tr> <tr><td>3.90</td><td>0.839</td><td>36549</td><td>5.64</td></tr> <tr><td></td><td>0.839</td><td>36,549</td><td></td></tr> </tbody> </table>	Stage (FT)	Storage (AC-FT)	Storage (FT <sup>3</sup> )	Q (CFS)	0	0	0	0	0.10	0.017	725	0.03	0.20	0.034	1460	0.11	0.30	0.051	2206	0.20	0.40	0.068	2962	0.26	0.50	0.086	3729	0.30	0.60	0.103	4506	0.34	0.70	0.122	5294	0.37	0.80	0.140	6093	0.64	0.90	0.158	6902	1.30	1.00	0.177	7722	1.67	1.10	0.196	8553	1.96	1.20	0.216	9395	2.21	1.30	0.235	10248	2.42	1.40	0.255	11113	2.62	1.50	0.275	11988	2.81	1.60	0.296	12875	2.98	1.70	0.316	13773	3.15	1.80	0.337	14682	3.30	1.90	0.358	15603	3.45	2.00	0.380	16536	3.59	2.10	0.401	17480	3.73	2.20	0.423	18436	3.86	2.30	0.445	19404	3.98	2.40	0.468	20383	4.11	2.50	0.491	21375	4.23	2.60	0.514	22379	4.34	2.70	0.537	23394	4.46	2.80	0.561	24422	4.57	2.90	0.585	25462	4.67	3.00	0.609	26514	4.78	3.10	0.633	27579	4.88	3.20	0.658	28656	4.98	3.30	0.683	29745	5.08	3.40	0.708	30847	5.18	3.50	0.734	31962	5.27	3.60	0.760	33089	5.37	3.70	0.786	34230	5.46	3.80	0.812	35383	5.55	3.90	0.839	36549	5.64		0.839	36,549	
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<p><b>MINIMUM DESIGN GEOMETRY</b></p> <p><b>STEP3:</b> Delete outlets, then propose the largest lowest orifice that does not, exceed the ex. Q or Duration. If the Q is acceptable, but the duration is exceeded, try decreasing orifice, then adding a weir slightly below the stage that has an issue.</p> <p><b>OUTLETS (for Stage-Discharge)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Orifice Outlets</th> <th colspan="3">Weir Outlets</th> </tr> <tr> <th>Invert Height (ft)</th> <th>Diameter (inches)</th> <th>No. of Orifices</th> <th>Crest Height (ft)</th> <th>Crest Width (ft)</th> <th>No. of Weirs</th> </tr> </thead> <tbody> <tr><td>0</td><td style="text-align:center;">3.00</td><td style="text-align:center;">2</td><td></td><td></td><td></td></tr> <tr><td>0.5</td><td style="text-align:center;">7.00</td><td style="text-align:center;">2</td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p style="text-align:right;">Hydromod Depth = <input type="text" value="1.40 FT"/> + 1' Freeboard = <input type="text" value="2.40 FT"/></p> <p><b>Top Surface Area</b> Based on HydroMod Depth +1' of Freeboard</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr><th colspan="2">Bottom Stage</th></tr> </thead> <tbody> <tr><td>Width</td><td style="text-align:center;">104</td></tr> <tr><td>Length</td><td style="text-align:center;">114</td></tr> </tbody> </table>			Orifice Outlets			Weir Outlets			Invert Height (ft)	Diameter (inches)	No. of Orifices	Crest Height (ft)	Crest Width (ft)	No. of Weirs	0	3.00	2				0.5	7.00	2																												Bottom Stage		Width	104	Length	114																																																																																																																			
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<p><b>STEP4:</b> Complete an increased runoff analysis, if the project can impact downstream properties. Incorporate these designs into the WQMP site plan. Add emergency overflow weir, for flows that exceed the Hydromod volumes, sized to the 100-year peak flow rate. Add access roads (&lt; 10% longitudinal slope) with enough width &amp; turn around access for equipment that would be needed to scarify the bottom or remove Bioretention soil media.</p>																																																																																																																																																																											
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**Summary of Hydrographs and Basin Routing:  
Drainage Area C – 91.5 Ac**

<b>Storm Frequency</b>	<b>Existing Q<sub>2</sub> (cfs) [1]</b>	<b>Proposed Q<sub>2</sub> (cfs)</b>	<b>Det. Basin Outlet Q<sub>2</sub> (cfs) [2]</b>	<b>Different [2] – [1] (cfs)</b>	<b>Different [2] – [1] (%)</b>
2-year 1-hour	44.595	79.811	2.101	-42.494	-95%
2-year 3-hour	27.712	49.895	2.375	-25.337	-91%
2-year 6-hour	23.804	44.972	2.559	-21.245	-89%
2-year 24-hour	2.761	17.460	2.809	0.048	1.7%

<b>Storm Frequency</b>	<b>Existing Q<sub>5</sub> (cfs) [1]</b>	<b>Proposed Q<sub>5</sub> (cfs)</b>	<b>Det. Basin Outlet Q<sub>5</sub> (cfs) [2]</b>	<b>Different [2] – [1] (cfs)</b>	<b>Different [2] – [1] (%)</b>
5-year 1-hour	81.829	125.377	2.386	-79.443	-97%
5-year 3-hour	50.219	75.823	2.619	-47.600	-94%
5-year 6-hour	43.544	67.491	2.820	-40.724	-93%
5-year 24-hour	4.094	24.039	4.512	0.418	10%

<b>Storm Frequency</b>	<b>Existing Q<sub>10</sub> (cfs) [1]</b>	<b>Proposed Q<sub>10</sub> (cfs)</b>	<b>Det. Basin Outlet Q<sub>10</sub> (cfs) [2]</b>	<b>Different [2] – [1] (cfs)</b>	<b>Different [2] – [1] (%)</b>
10-year 1-hour	128.187	168.929	2.628	-125.559	-97%
10-year 3-hour	85.884	103.364	2.842	-83.042	-96%
10-year 6-hour	76.756	92.591	5.212	-71.544	-93%
10-year 24-hour	26.514	34.096	18.306	-8.208	-31%

<b>Storm Frequency</b>	<b>Existing Q<sub>100</sub> (cfs) [1]</b>	<b>Proposed Q<sub>100</sub> (cfs)</b>	<b>Det. Basin Outlet Q<sub>100</sub> (cfs) [2]</b>	<b>Different [2] – [1] (cfs)</b>	<b>Different [2] – [1] (%)</b>
100-year 1-hour	236.581	294.950	13.532	-223.049	-94%
100-year 3-hour	157.983	176.391	43.548	-114.435	-72%
100-year 6-hour	141.529	157.186	78.747	-62.782	-44%
100-year 24-hour	62.787	66.833	54.109	-8.678	-13%

See **Attachment D** for Detention Basin Routing Calculations

**For Detention Basin D, will be provided in the final design.**

**Summary Comparison Peak Discharges – 100-year storm Ultimate Condition – Rational Method, with Detention Basins A, B, and C:**

<b>Drainage Area</b>	<b>Drainage Subarea</b>	<b>Caltrans Culvert Capacity Q max in cfs</b>	<b>Proposed Condition Q<sub>100</sub> in cfs</b>	<b>Different [2]-[1]</b>	<b>Downstream Caltrans Drainage Facility</b>	<b>Existing Condition Peak Flow in cfs</b>
		<b>[1]</b>	<b>[2]</b>			
<b>A</b>	A-1 thru A-3	<b>349.9</b>	163.27	-186.63	<b>DS #8</b> 84" RCP	168.48
<b>WQ/Det. Basin A4a</b>	D-1 and D-2	<b>32.8</b>	14.20	-18.6	<b>DS #7</b> 24" AP	21.30
<b>Det. B3</b>		<b>18.7</b>	16.73	-1.97	<b>DS #6</b> 24" RCP	49.22
<b>WQ Basin Res. B1</b>	Water Quality basin only	<b>13.9</b>	12.39	-1.51	<b>DS #5</b> 24" RCP	143.03
<b>C</b>	C-1 thru C-2	<b>30.7</b>	16.93	-13.77	<b>DS #4</b> 24" AP	63.61
<b>WQ/Det. Basin C1</b>	C-3 thru C-16	<b>721.0</b>	577.27	-143.73	<b>DS #3</b> 60" RCP	673.71
					<b>DS #2</b> 84" RCP	

**TABLE OF PROPOSED SYSTEM DESIGN VALUES**

Drainage System	Existing Pipe Size and Type English (Metric)	Proposed Pipe Size and Type English (Metric)	Station (metric)	D Size (ft)	A (ft2)	S (ft/ft)	n	Wetted Perimeter (AP)	R (assume 100% full) A/AP	Q (max) cfs	V(max) ft/s	Q (100)*** cfs	V*** ft/s
1	42 " ( 1050 mm) CMP	42 " ( 1050 mm) CSP	165+44.866	3.5	9.62	2.22	0.24	11.00	0.875	81.4	8.46	20.4	9.58
2	84 " ( 2135 mm) CMP	84 " ( 2100 mm) RCP	168+92.190	7	38.48	1.16	0.13	21.99	1.75	41.1*	8.84*	41.1	8.84
3	60 " ( 1500 mm) CMP	60 " ( 1500 mm) RCP	170+51.318	5	19.63	0.83	0.13	15.71	1.25	237.9	12.12	548.4	12.21
4	24 " ( 600 mm) CMP	24 " ( 600 mm) AP	172+76.365	2	3.14	2.14	0.24	6.28	0.5	18.0	5.72	76.9	11.51
5	18 " ( 450 mm) CMP	24 " ( 600 mm) RCP	175+17.896	2	3.14	0.38	0.13	6.28	0.5	14.0	4.45	106.6	10.41
6	18 " ( 450 mm) CMP	24 " ( 600 mm) RCP	176+86.952	2	3.14	0.68	0.13	6.28	0.5	18.7	5.95	31.6	7.50
7	18 " ( 450 mm) CMP	24 " ( 600 mm) AP	178+91.951	2	3.14	2.53	0.24	6.28	0.5	19.5	6.22	16.3	8.67
8	84 " ( 2134 mm) CMP	84 " ( 2100 mm) RCP	180+30.829	7	38.48	0.30	0.13	21.99	1.75	350.9	9.12	132.3	11.83
9	18 " ( 450 mm) CMP	24 " ( 600 mm) AP	182+44.948	2	3.14	6.34	0.24	6.28	0.5	30.9	9.85	5.8	8.33
10	36 " ( 900 mm) CMP	36 " ( 900 mm) AP	183+77.789	3	7.07	6.95	0.24	9.42	0.75	95.5	13.51	21.1	11.72
11	84 " ( 2135 mm) CMP	84 " ( 2100 mm) RCP	186+20.636	7	38.48	3.82	0.13	21.99	1.75	56.3*	12.0*	56.3	12.00
12	24 " ( 600 mm) CMP	24 " ( 600 mm) AP	187+12.491	2	3.14	1.88	0.24	6.28	0.5	16.8	5.36	11.4	8.79
13	24 " ( 600 mm) CSP	24 " ( 600 mm) CSP	190+14.141	2	3.14	4.33	0.24	6.28	0.5	25.6	8.14	18.2	8.79
14	42 " ( 1050 mm) CSP	42 " ( 600 mm) CSP	190+89.283	3.5	9.62	2.81	0.24	11.00	0.875	91.6	9.52	69.9	12.54
15	36 " ( 900 mm) AP	36 " ( 36 mm) AP	238+49.866	Covered under Project 1 (EA 464611 Drainage Report)						18.9**	8.12**	18.9	8.12
16	6'x3' (1830mmx915mm) RCB	6'x3' (1830mmx915mm) RCB	239+64.212	Covered under Project 1 (EA 464611 Drainage Report)						111.4**	10.56**	111.4	10.56
17	24 " ( 600 mm) CSP	24 " ( 600 mm) CSP	136+80.829	2	3.14	1.58	0.24	6.28	0.5	15.4	4.91	N/A - Pipe Extension	
18	24 " ( 600 mm) CSP	24 " ( 600 mm) CSP	138+59.920	2	3.14	2.50	0.24	6.28	0.5	19.4	6.18	N/A - Pipe Extension	
19	84 " ( 2100 mm) CSP	84 " ( 2100 mm) CSP	151+42.54	7	38.48	1.81	0.24	21.99	1.75	466.9	12.13	N/A - Pipe Extension	
20	84 " ( 2100 mm) CSP	84 " ( 2100 mm) CSP	155+16.000	7	38.48	1.66	0.24	21.99	1.75	447.1	11.62	N/A - Pipe Extension	

\* Q(100) used. Drainage System is used as a wildlife crossing and is oversized (existing and proposed).

\*\* Covered under Project 1 (EA 464611 Drainage Report)

\*\*\* Informational Data Only, See Appendix G and I.

## **CONCLUSION**

The proposed site plan, including the grading and drainage design, for Keller Crossing – Tract 38163 development Project is in conformance with County of Riverside standards and requirements. The proposed storm drain system will drain into the existing downstream drainage facilities Caltrans Culverts Drainage System 2 through Drainage System 8 with smaller peak discharges than an existing conditions or capacity of existing culverts.

The peak flows (2-, 5-, 10-, and 100-year 1-, 3-, 6-, and 24-hour storm), post-project water quality will be mitigated with the use of proposed WQ Biofiltration/Detention Basin per Santa Margarita Region Hydromodification Management plan.

Erosion and Sediment Control will be provided during construction for all disturbed areas within the project site.

Impacts to the existing downstream drainage facilities due to runoff from Keller Crossing development Project will be less than in the existing, pre-developed condition.

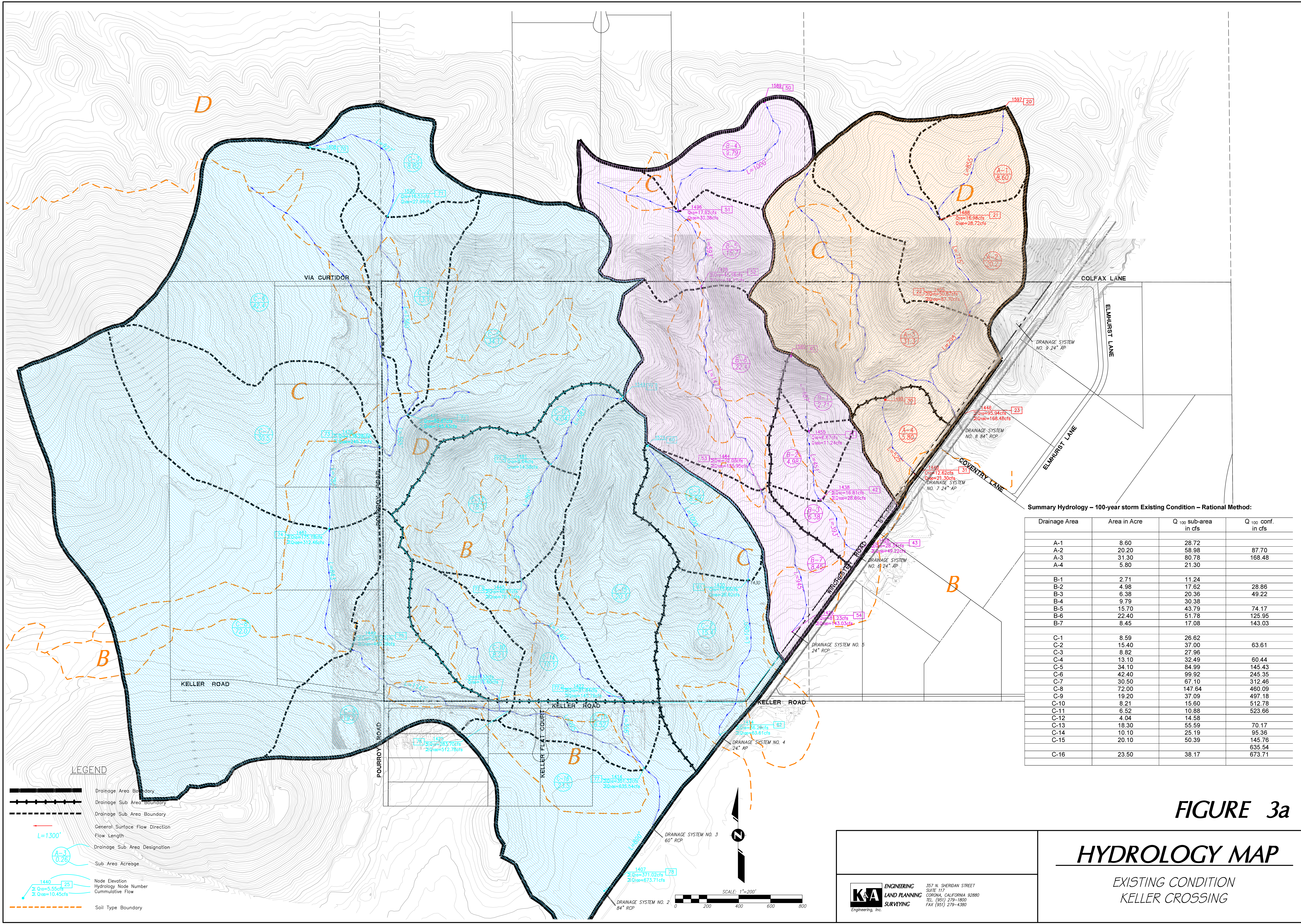
## **REFERENCES**

1. Riverside County Flood Control and Water Conservation District Hydrology Manual.
2. Keller Crossing – Tract 38163 Plans prepared by K & A Engineering, Inc.
3. CivilCADD / CivilDesign Engineering Software.
4. Hydraulic Calculations with Flow Master V8i, by Bentley, Inc.
5. California Storm Water Best Management Practices Handbook.
6. SMRHM software by Clear Creek Solution, Inc.

**FIGURE:**

**FIGURE 3a:**

**HYDROLOGY MAP - EXISTING CONDITION**



**FIGURE 3a**

# HYDROLOGY MAP

EXISTING CONDITION  
KELLER CROSSING

**K&A ENGINEERING**  
LAND PLANNING  
SURVEYING  
Engineering, Inc.

357 N. SHERIDAN STREET  
SUITE 117  
CORONA, CALIFORNIA 92880  
TEL (951) 279-1800  
FAX (951) 279-4380



**FIGURE 3b:**

**HYDROLOGY MAP - PROPOSED CONDITION**



**FIGURE 4:**

**CATCH BASIN SIZING MAP**



**ATTACHMENT:**

# **ATTACHMENT A:**

**EXISTING CONDITION - RATIONAL METHOD HYDROLOGY**

**FOR 10-YEAR AND 100-YEAR STORM**

# **Rational Methods Hydrology Existing Condition**

**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version 7.1  
Rational Hydrology Study                      Date: 05/06/21    File:kcex10.out

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KELLER CROSSING  
Hydrology Existing Condition  
10-year storm

-----

\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file

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Program License Serial Number 4029

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Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.528(In.)  
100 year, 1 hour precipitation = 1.590(In.)

Storm event year = 10.0  
Calculated rainfall intensity data:  
1 hour intensity = 0.965(In/Hr)  
Slope of intensity duration curve = 0.5500

+++++  
Process from Point/Station                      20.000 to Point/Station                      21.000  
\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

-----

Initial area flow distance = 855.000(Ft.)  
Top (of initial area) elevation = 1597.000(Ft.)  
Bottom (of initial area) elevation = 1488.000(Ft.)  
Difference in elevation = 109.000(Ft.)  
Slope = 0.12749 s(percent)= 12.75  
TC =  $k(0.530)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$   
Initial area time of concentration = 11.912 min.  
Rainfall intensity = 2.348(In/Hr) for a 10.0 year storm  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.841  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 1.000  
RI index for soil(AMC 2) = 89.00  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Initial subarea runoff = 16.981(CFS)  
Total initial stream area = 8.600(Ac.)



**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

Pervious area fraction = 1.000

+++++  
Process from Point/Station           21.000 to Point/Station           22.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1488.000 (Ft.)  
End of natural channel elevation = 1465.000 (Ft.)  
Length of natural channel = 715.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 36.924 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 3.32 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0322  
Corrected/adjusted channel slope = 0.0322  
Travel time = 3.59 min.           TC = 15.50 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.826  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.350  
Decimal fraction soil group D = 0.650  
RI index for soil(AMC 2) = 87.95  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 2.032 (In/Hr) for a 10.0 year storm  
Subarea runoff = 33.888 (CFS) for 20.200 (Ac.)  
Total runoff = 50.869 (CFS)    Total area = 28.800 (Ac.)

+++++  
Process from Point/Station           22.000 to Point/Station           23.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1465.000 (Ft.)  
End of natural channel elevation = 1446.000 (Ft.)  
Length of natural channel = 795.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 78.511 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 3.68 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0239  
Corrected/adjusted channel slope = 0.0239  
Travel time = 3.60 min.           TC = 19.09 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.795  
Decimal fraction soil group A = 0.000

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 84.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.811(In/Hr) for a 10.0 year storm  
 Subarea runoff = 45.076(CFS) for 31.300(Ac.)  
 Total runoff = 95.944(CFS) Total area = 60.100(Ac.)

++++++  
 Process from Point/Station 30.000 to Point/Station 31.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 525.000(Ft.)  
 Top (of initial area) elevation = 1498.000(Ft.)  
 Bottom (of initial area) elevation = 1440.000(Ft.)  
 Difference in elevation = 58.000(Ft.)  
 Slope = 0.11048 s(percent)= 11.05  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 10.085 min.  
 Rainfall intensity = 2.573(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.846  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 12.623(CFS)  
 Total initial stream area = 5.800(Ac.)  
 Pervious area fraction = 1.000

++++++  
 Process from Point/Station 40.000 to Point/Station 41.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 487.000(Ft.)  
 Top (of initial area) elevation = 1589.000(Ft.)  
 Bottom (of initial area) elevation = 1455.000(Ft.)  
 Difference in elevation = 134.000(Ft.)  
 Slope = 0.27515 s(percent)= 27.52  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 8.154 min.  
 Rainfall intensity = 2.892(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.851  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 6.674(CFS)  
 Total initial stream area = 2.710(Ac.)  
 Pervious area fraction = 1.000

++++++  
 Process from Point/Station 41.000 to Point/Station 42.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

---

Top of natural channel elevation = 1455.000 (Ft.)  
End of natural channel elevation = 1438.000 (Ft.)  
Length of natural channel = 451.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 12.806 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 2.53 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0377  
Corrected/adjusted channel slope = 0.0377  
Travel time = 2.97 min. TC = 11.12 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.835  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.500  
Decimal fraction soil group D = 0.500  
RI index for soil(AMC 2) = 87.50  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 2.438 (In/Hr) for a 10.0 year storm  
Subarea runoff = 10.137 (CFS) for 4.980 (Ac.)  
Total runoff = 16.811 (CFS) Total area = 7.690 (Ac.)

+++++  
Process from Point/Station 42.000 to Point/Station 43.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1438.000 (Ft.)  
End of natural channel elevation = 1428.000 (Ft.)  
Length of natural channel = 393.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 23.784 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 2.56 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0254  
Corrected/adjusted channel slope = 0.0254  
Travel time = 2.56 min. TC = 13.68 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.830  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.350  
Decimal fraction soil group D = 0.650  
RI index for soil(AMC 2) = 87.95  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 2.176 (In/Hr) for a 10.0 year storm

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Subarea runoff = 11.527(CFS) for 6.380(Ac.)  
 Total runoff = 28.338(CFS) Total area = 14.070(Ac.)

\*\*\*\*\*  
 Process from Point/Station 50.000 to Point/Station 51.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 1000.000(Ft.)  
 Top (of initial area) elevation = 1589.000(Ft.)  
 Bottom (of initial area) elevation = 1496.000(Ft.)  
 Difference in elevation = 93.000(Ft.)  
 Slope = 0.09300 s(percent)= 9.30  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.508 min.  
 Rainfall intensity = 2.191(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.100  
 Decimal fraction soil group D = 0.900  
 RI index for soil(AMC 2) = 88.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 17.916(CFS)  
 Total initial stream area = 9.790(Ac.)  
 Pervious area fraction = 1.000

\*\*\*\*\*  
 Process from Point/Station 51.000 to Point/Station 52.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1496.000(Ft.)  
 End of natural channel elevation = 1478.000(Ft.)  
 Length of natural channel = 593.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 32.283(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(slope^{.492})$   
 Velocity using mean channel flow = 3.09(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0304  
 Corrected/adjusted channel slope = 0.0304  
 Travel time = 3.20 min. TC = 16.71 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.825  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.250  
 Decimal fraction soil group D = 0.750  
 RI index for soil(AMC 2) = 88.25  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.949(In/Hr) for a 10.0 year storm  
 Subarea runoff = 25.246(CFS) for 15.700(Ac.)  
 Total runoff = 43.162(CFS) Total area = 25.490(Ac.)

**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

+++++  
Process from Point/Station            52.000 to Point/Station            53.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation =    1478.000 (Ft.)  
End of natural channel elevation =    1444.000 (Ft.)  
Length of natural channel    =    1477.000 (Ft.)  
Estimated mean flow rate at midpoint of channel =            62.127 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow =    3.35 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope =    0.0230  
Corrected/adjusted channel slope =    0.0230  
Travel time =    7.35 min.            TC =    24.06 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.809  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.300  
Decimal fraction soil group D = 0.700  
RI index for soil(AMC 2) = 88.10  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity =    1.595 (In/Hr) for a    10.0 year storm  
Subarea runoff =    28.893 (CFS) for    22.400 (Ac.)  
Total runoff =    72.055 (CFS)    Total area =    47.890 (Ac.)

+++++  
Process from Point/Station            53.000 to Point/Station            54.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation =    1444.000 (Ft.)  
End of natural channel elevation =    1426.000 (Ft.)  
Length of natural channel    =    945.000 (Ft.)  
Estimated mean flow rate at midpoint of channel =            78.412 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow =    3.29 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope =    0.0190  
Corrected/adjusted channel slope =    0.0190  
Travel time =    4.78 min.            TC =    28.84 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.752  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.450  
Decimal fraction soil group C = 0.550

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 82.40  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.444(In/Hr) for a 10.0 year storm  
 Subarea runoff = 9.170(CFS) for 8.450(Ac.)  
 Total runoff = 81.225(CFS) Total area = 56.340(Ac.)

++++++  
 Process from Point/Station 60.000 to Point/Station 61.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 1000.000(Ft.)  
 Top (of initial area) elevation = 1525.000(Ft.)  
 Bottom (of initial area) elevation = 1430.000(Ft.)  
 Difference in elevation = 95.000(Ft.)  
 Slope = 0.09500 s(percent)= 9.50  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.450 min.  
 Rainfall intensity = 2.196(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.830  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 87.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 15.658(CFS)  
 Total initial stream area = 8.590(Ac.)  
 Pervious area fraction = 1.000

++++++  
 Process from Point/Station 61.000 to Point/Station 62.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1430.000(Ft.)  
 End of natural channel elevation = 1414.000(Ft.)  
 Length of natural channel = 1060.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 29.693(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 $Velocity = 5.48(q^{.33})(slope^{.492})$   
 Velocity using mean channel flow = 2.13(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0151  
 Corrected/adjusted channel slope = 0.0151  
 Travel time = 8.29 min. TC = 21.74 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.794  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.200  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 85.60  
 Pervious area fraction = 1.000; Impervious fraction = 0.000

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Rainfall intensity = 1.687(In/Hr) for a 10.0 year storm  
 Subarea runoff = 20.632(CFS) for 15.400(Ac.)  
 Total runoff = 36.290(CFS) Total area = 23.990(Ac.)

+++++  
 Process from Point/Station 70.000 to Point/Station 71.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 927.000(Ft.)  
 Top (of initial area) elevation = 1608.000(Ft.)  
 Bottom (of initial area) elevation = 1520.000(Ft.)  
 Difference in elevation = 88.000(Ft.)  
 Slope = 0.09493 s(percent)= 9.49  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.051 min.  
 Rainfall intensity = 2.233(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.838  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 16.507(CFS)  
 Total initial stream area = 8.820(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 71.000 to Point/Station 72.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1520.000(Ft.)  
 End of natural channel elevation = 1481.000(Ft.)  
 Length of natural channel = 1360.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 28.765(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 $Velocity = 5.48(q^{.33})(slope^{.492})$   
 Velocity using mean channel flow = 2.89(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0287  
 Corrected/adjusted channel slope = 0.0287  
 Travel time = 7.84 min. TC = 20.89 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.808  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 87.20  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.724(In/Hr) for a 10.0 year storm  
 Subarea runoff = 18.254(CFS) for 13.100(Ac.)  
 Total runoff = 34.761(CFS) Total area = 21.920(Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

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+++++
Process from Point/Station      71.000 to Point/Station      72.000
**** SUBAREA FLOW ADDITION ****

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UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.815
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.300
Decimal fraction soil group D = 0.700
RI index for soil(AMC 2) = 88.10
Pervious area fraction = 1.000; Impervious fraction = 0.000
Time of concentration = 20.89 min.
Rainfall intensity = 1.724(In/Hr) for a 10.0 year storm
Subarea runoff = 47.907(CFS) for 34.100(Ac.)
Total runoff = 82.668(CFS) Total area = 56.020(Ac.)

```

```

+++++
Process from Point/Station      72.000 to Point/Station      73.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****

```

---

```

Top of natural channel elevation = 1481.000(Ft.)
End of natural channel elevation = 1476.000(Ft.)
Length of natural channel = 385.000(Ft.)
Estimated mean flow rate at midpoint of channel = 113.952(CFS)

```

```

Natural mountain channel type used
L.A. County flood control district formula for channel velocity:
Velocity = 5.48(q.33)(slope.492)
Velocity using mean channel flow = 3.09(Ft/s)

```

```

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
Normal channel slope = 0.0130
Corrected/adjusted channel slope = 0.0130
Travel time = 2.08 min. TC = 22.97 min.

```

```

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.802
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.700
Decimal fraction soil group D = 0.300
RI index for soil(AMC 2) = 86.90
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 1.636(In/Hr) for a 10.0 year storm
Subarea runoff = 55.612(CFS) for 42.400(Ac.)
Total runoff = 138.280(CFS) Total area = 98.420(Ac.)

```

```

+++++
Process from Point/Station      73.000 to Point/Station      74.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****

```

---

```

Top of natural channel elevation = 1476.000(Ft.)
End of natural channel elevation = 1461.000(Ft.)
Length of natural channel = 780.000(Ft.)
Estimated mean flow rate at midpoint of channel = 159.707(CFS)

```



**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 4.18(Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0192  
Corrected/adjusted channel slope = 0.0192  
Travel time = 3.11 min. TC = 26.07 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.793  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.800  
Decimal fraction soil group D = 0.200  
RI index for soil(AMC 2) = 86.60  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 1.526(In/Hr) for a 10.0 year storm  
Subarea runoff = 36.901(CFS) for 30.500(Ac.)  
Total runoff = 175.182(CFS) Total area = 128.920(Ac.)

++++  
Process from Point/Station 74.000 to Point/Station 75.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1461.000(Ft.)  
End of natural channel elevation = 1449.000(Ft.)  
Length of natural channel = 843.000(Ft.)  
Estimated mean flow rate at midpoint of channel = 224.100(CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 4.04(Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0142  
Corrected/adjusted channel slope = 0.0142  
Travel time = 3.48 min. TC = 29.55 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.782  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.100  
Decimal fraction soil group C = 0.600  
Decimal fraction soil group D = 0.300  
RI index for soil(AMC 2) = 86.10  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 1.424(In/Hr) for a 10.0 year storm  
Subarea runoff = 80.183(CFS) for 72.000(Ac.)  
Total runoff = 255.365(CFS) Total area = 200.920(Ac.)

++++

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Process from Point/Station 75.000 to Point/Station 76.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

Top of natural channel elevation = 1449.000 (Ft.)  
 End of natural channel elevation = 1425.000 (Ft.)  
 Length of natural channel = 1147.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 267.566 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 5.17 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0209  
 Corrected/adjusted channel slope = 0.0209  
 Travel time = 3.70 min. TC = 33.25 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.780  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 86.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.335 (In/Hr) for a 10.0 year storm  
 Subarea runoff = 20.004 (CFS) for 19.200 (Ac.)  
 Total runoff = 275.369 (CFS) Total area = 220.120 (Ac.)

+++++  
 Process from Point/Station 75.000 to Point/Station 76.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.760  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.200  
 Decimal fraction soil group C = 0.800  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 84.40  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 33.25 min.  
 Rainfall intensity = 1.335 (In/Hr) for a 10.0 year storm  
 Subarea runoff = 8.327 (CFS) for 8.210 (Ac.)  
 Total runoff = 283.696 (CFS) Total area = 228.330 (Ac.)

+++++  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

Top of natural channel elevation = 1425.000 (Ft.)  
 End of natural channel elevation = 1414.000 (Ft.)  
 Length of natural channel = 995.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 287.746 (CFS)

Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Velocity(ft/s) =  $(7 + 8(q(\text{English Units})^{.352})(\text{slope}^{0.5}))$   
 Velocity using mean channel flow = 6.91(Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)

Normal channel slope = 0.0111  
 Corrected/adjusted channel slope = 0.0111  
 Travel time = 2.40 min. TC = 35.65 min.

Adding area flow to channel  
 SINGLE FAMILY (1/2 Acre Lot)  
 Runoff Coefficient = 0.672  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.800  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 58.60  
 Pervious area fraction = 0.600; Impervious fraction = 0.400  
 Rainfall intensity = 1.285(In/Hr) for a 10.0 year storm  
 Subarea runoff = 5.626(CFS) for 6.520(Ac.)  
 Total runoff = 289.321(CFS) Total area = 234.850(Ac.)

\*\*\*\*\*  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 234.850(Ac.)  
 Runoff from this stream = 289.321(CFS)  
 Time of concentration = 35.65 min.  
 Rainfall intensity = 1.285(In/Hr)

\*\*\*\*\*  
 Process from Point/Station 77.100 to Point/Station 77.200  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 583.000(Ft.)  
 Top (of initial area) elevation = 1549.000(Ft.)  
 Bottom (of initial area) elevation = 1481.000(Ft.)  
 Difference in elevation = 68.000(Ft.)  
 Slope = 0.11664 s(percent)= 11.66  
 $TC = k(0.530)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$   
 Initial area time of concentration = 10.403 min.  
 Rainfall intensity = 2.529(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.845  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 8.635(CFS)  
 Total initial stream area = 4.040(Ac.)  
 Pervious area fraction = 1.000

\*\*\*\*\*  
 Process from Point/Station 77.200 to Point/Station 77.300  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

---

Top of natural channel elevation = 1481.000 (Ft.)  
End of natural channel elevation = 1445.000 (Ft.)  
Length of natural channel = 805.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 28.190 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 3.58 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0447  
Corrected/adjusted channel slope = 0.0447  
Travel time = 3.75 min. TC = 14.16 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.808  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.400  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 0.600  
RI index for soil(AMC 2) = 84.60  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 2.135 (In/Hr) for a 10.0 year storm  
Subarea runoff = 31.579 (CFS) for 18.300 (Ac.)  
Total runoff = 40.214 (CFS) Total area = 22.340 (Ac.)

+++++  
Process from Point/Station 77.300 to Point/Station 77.400  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1445.000 (Ft.)  
End of natural channel elevation = 1422.000 (Ft.)  
Length of natural channel = 1140.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 49.304 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 2.91 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0202  
Corrected/adjusted channel slope = 0.0202  
Travel time = 6.54 min. TC = 20.69 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.791  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.300  
Decimal fraction soil group C = 0.300  
Decimal fraction soil group D = 0.400  
RI index for soil(AMC 2) = 84.80  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 1.733 (In/Hr) for a 10.0 year storm

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Subarea runoff = 13.843(CFS) for 10.100(Ac.)  
 Total runoff = 54.057(CFS) Total area = 32.440(Ac.)

+++++  
 Process from Point/Station 77.300 to Point/Station 77.400  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.798  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 85.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 20.69 min.  
 Rainfall intensity = 1.733(In/Hr) for a 10.0 year storm  
 Subarea runoff = 27.782(CFS) for 20.100(Ac.)  
 Total runoff = 81.839(CFS) Total area = 52.540(Ac.)

+++++  
 Process from Point/Station 77.400 to Point/Station 77.000  
 \*\*\*\* IMPROVED CHANNEL TRAVEL TIME \*\*\*\*

---

Upstream point elevation = 1422.000(Ft.)  
 Downstream point elevation = 1415.000(Ft.)  
 Channel length thru subarea = 356.000(Ft.)  
 Channel base width = 10.000(Ft.)  
 Slope or 'Z' of left channel bank = 2.000  
 Slope or 'Z' of right channel bank = 2.000  
 Manning's 'N' = 0.025  
 Maximum depth of channel = 4.000(Ft.)  
 Flow(q) thru subarea = 81.839(CFS)  
 Depth of flow = 0.957(Ft.), Average velocity = 7.175(Ft/s)  
 Channel flow top width = 13.829(Ft.)  
 Flow Velocity = 7.17(Ft/s)  
 Travel time = 0.83 min.  
 Time of concentration = 21.52 min.

Sub-Channel No. 1 Critical depth = 1.172(Ft.)  
 ' ' ' Critical flow top width = 14.688(Ft.)  
 ' ' ' Critical flow velocity = 5.658(Ft/s)  
 ' ' ' Critical flow area = 14.465(Sq.Ft)

+++++  
 Process from Point/Station 77.400 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 52.540(Ac.)  
 Runoff from this stream = 81.839(CFS)  
 Time of concentration = 21.52 min.  
 Rainfall intensity = 1.696(In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
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# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

1	289.321	35.65	1.285
2	81.839	21.52	1.696

Largest stream flow has longer time of concentration  
 $Q_p = 289.321 + \text{sum of}$   
 $\quad Q_b \quad I_a/I_b$   
 $\quad 81.839 * \quad 0.758 = \quad 61.997$   
 $Q_p = 351.318$

Total of 2 streams to confluence:  
Flow rates before confluence point:  
289.321      81.839  
Area of streams before confluence:  
234.850      52.540  
Results of confluence:  
Total flow rate = 351.318(CFS)  
Time of concentration = 35.652 min.  
Effective stream area after confluence = 287.390 (Ac.)

+++++  
Process from Point/Station 77.000 to Point/Station 78.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1415.000 (Ft.)  
End of natural channel elevation = 1407.000 (Ft.)  
Length of natural channel = 890.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 365.682 (CFS)

Natural valley channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity(ft/s) =  $(7 + 8(q(\text{English Units})^{.352}) (\text{slope}^{0.5}))$   
Velocity using mean channel flow = 6.72 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0090  
Corrected/adjusted channel slope = 0.0090  
Travel time = 2.21 min.      TC = 37.86 min.

Adding area flow to channel  
SINGLE FAMILY (1/2 Acre Lot)  
Runoff Coefficient = 0.674  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.700  
Decimal fraction soil group C = 0.300  
Decimal fraction soil group D = 0.000  
RI index for soil(AMC 2) = 59.90  
Pervious area fraction = 0.600; Impervious fraction = 0.400  
Rainfall intensity = 1.243(In/Hr) for a 10.0 year storm  
Subarea runoff = 19.697(CFS) for 23.500(Ac.)  
Total runoff = 371.015(CFS)      Total area = 310.890(Ac.)  
End of computations, total study area = 471.19 (Ac.)  
The following figures may  
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction( $A_p$ ) = 0.975  
Area averaged RI index number = 85.0

**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version 7.1  
Rational Hydrology Study                      Date: 05/06/21    File:kcex100.out

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KELLER CROSSING  
Hydrology Existing Condition  
100-year storm

-----

\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file

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Program License Serial Number 4029

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Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.528(In.)  
100 year, 1 hour precipitation = 1.590(In.)

Storm event year = 100.0  
Calculated rainfall intensity data:  
1 hour intensity = 1.590(In/Hr)  
Slope of intensity duration curve = 0.5500

+++++  
Process from Point/Station            20.000 to Point/Station            21.000  
\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

-----  
Initial area flow distance = 855.000(Ft.)  
Top (of initial area) elevation = 1597.000(Ft.)  
Bottom (of initial area) elevation = 1488.000(Ft.)  
Difference in elevation = 109.000(Ft.)  
Slope = 0.12749 s(percent)= 12.75  
TC = k(0.530)\*[(length^3)/(elevation change)]^0.2  
Initial area time of concentration = 11.912 min.  
Rainfall intensity = 3.869(In/Hr) for a 100.0 year storm  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.863  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 1.000  
RI index for soil(AMC 2) = 89.00  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Initial subarea runoff = 28.723(CFS)  
Total initial stream area = 8.600(Ac.)  
Pervious area fraction = 1.000

**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

+++++  
Process from Point/Station            21.000 to Point/Station            22.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation =    1488.000 (Ft.)  
End of natural channel elevation =    1465.000 (Ft.)  
Length of natural channel    =    715.000 (Ft.)  
Estimated mean flow rate at midpoint of channel =            62.455 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
Velocity using mean channel flow =    3.95 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0322  
Corrected/adjusted channel slope = 0.0322  
Travel time =    3.01 min.            TC =    14.93 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.854  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.350  
Decimal fraction soil group D = 0.650  
RI index for soil(AMC 2) = 87.95  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity =            3.418 (In/Hr) for a    100.0 year storm  
Subarea runoff =            58.978 (CFS) for            20.200 (Ac.)  
Total runoff =            87.701 (CFS)            Total area =            28.800 (Ac.)

+++++  
Process from Point/Station            22.000 to Point/Station            23.000  
\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation =    1465.000 (Ft.)  
End of natural channel elevation =    1446.000 (Ft.)  
Length of natural channel    =    795.000 (Ft.)  
Estimated mean flow rate at midpoint of channel =            135.358 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
Velocity using mean channel flow =    4.41 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0239  
Corrected/adjusted channel slope = 0.0239  
Travel time =    3.01 min.            TC =    17.93 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.835  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.300  
Decimal fraction soil group C = 0.300



# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 84.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 3.090(In/Hr) for a 100.0 year storm  
 Subarea runoff = 80.784(CFS) for 31.300(Ac.)  
 Total runoff = 168.484(CFS) Total area = 60.100(Ac.)

++++++  
 Process from Point/Station 30.000 to Point/Station 31.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 525.000(Ft.)  
 Top (of initial area) elevation = 1498.000(Ft.)  
 Bottom (of initial area) elevation = 1440.000(Ft.)  
 Difference in elevation = 58.000(Ft.)  
 Slope = 0.11048 s(percent)= 11.05  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 10.085 min.  
 Rainfall intensity = 4.240(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.866  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 21.304(CFS)  
 Total initial stream area = 5.800(Ac.)  
 Pervious area fraction = 1.000

++++++  
 Process from Point/Station 40.000 to Point/Station 41.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 487.000(Ft.)  
 Top (of initial area) elevation = 1589.000(Ft.)  
 Bottom (of initial area) elevation = 1455.000(Ft.)  
 Difference in elevation = 134.000(Ft.)  
 Slope = 0.27515 s(percent)= 27.52  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 8.154 min.  
 Rainfall intensity = 4.766(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.870  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 11.235(CFS)  
 Total initial stream area = 2.710(Ac.)  
 Pervious area fraction = 1.000

++++++  
 Process from Point/Station 41.000 to Point/Station 42.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1455.000(Ft.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

End of natural channel elevation = 1438.000 (Ft.)  
 Length of natural channel = 451.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 21.558 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.01 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0377  
 Corrected/adjusted channel slope = 0.0377  
 Travel time = 2.50 min. TC = 10.65 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.860  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 87.50  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 4.114 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 17.624 (CFS) for 4.980 (Ac.)  
 Total runoff = 28.859 (CFS) Total area = 7.690 (Ac.)

\*\*\*\*\*  
 Process from Point/Station 42.000 to Point/Station 43.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1438.000 (Ft.)  
 End of natural channel elevation = 1428.000 (Ft.)  
 Length of natural channel = 393.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 40.830 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.06 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0254  
 Corrected/adjusted channel slope = 0.0254  
 Travel time = 2.14 min. TC = 12.79 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.858  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.350  
 Decimal fraction soil group D = 0.650  
 RI index for soil(AMC 2) = 87.95  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 3.720 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 20.362 (CFS) for 6.380 (Ac.)  
 Total runoff = 49.221 (CFS) Total area = 14.070 (Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

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+++++
Process from Point/Station      50.000 to Point/Station      51.000
**** INITIAL AREA EVALUATION ****

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```

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 1589.000(Ft.)
Bottom (of initial area) elevation = 1496.000(Ft.)
Difference in elevation = 93.000(Ft.)
Slope = 0.09300 s(percent)= 9.30
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.508 min.
Rainfall intensity = 3.610(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.860
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.900
RI index for soil(AMC 2) = 88.70
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 30.382(CFS)
Total initial stream area = 9.790(Ac.)
Pervious area fraction = 1.000

```

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+++++
Process from Point/Station      51.000 to Point/Station      52.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****

```

---

```

Top of natural channel elevation = 1496.000(Ft.)
End of natural channel elevation = 1478.000(Ft.)
Length of natural channel = 593.000(Ft.)
Estimated mean flow rate at midpoint of channel = 54.744(CFS)

```

```

Natural mountain channel type used
L.A. County flood control district formula for channel velocity:
Velocity = 5.48(q^.33)(slope^.492)
Velocity using mean channel flow = 3.68(Ft/s)

```

```

Correction to map slope used on extremely rugged channels with
drips and waterfalls (Plate D-6.2)
Normal channel slope = 0.0304
Corrected/adjusted channel slope = 0.0304
Travel time = 2.69 min. TC = 16.19 min.

```

```

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.854
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.250
Decimal fraction soil group D = 0.750
RI index for soil(AMC 2) = 88.25
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 3.268(In/Hr) for a 100.0 year storm
Subarea runoff = 43.792(CFS) for 15.700(Ac.)
Total runoff = 74.174(CFS) Total area = 25.490(Ac.)

```

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+++++

```

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Process from Point/Station 52.000 to Point/Station 53.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

Top of natural channel elevation = 1478.000 (Ft.)  
 End of natural channel elevation = 1444.000 (Ft.)  
 Length of natural channel = 1477.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 106.766 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 4.00 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0230  
 Corrected/adjusted channel slope = 0.0230  
 Travel time = 6.15 min. TC = 22.34 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.844  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 88.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.737 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 51.779 (CFS) for 22.400 (Ac.)  
 Total runoff = 125.953 (CFS) Total area = 47.890 (Ac.)

\*\*\*\*\*  
 Process from Point/Station 53.000 to Point/Station 54.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

Top of natural channel elevation = 1444.000 (Ft.)  
 End of natural channel elevation = 1426.000 (Ft.)  
 Length of natural channel = 945.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 137.065 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.96 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0190  
 Corrected/adjusted channel slope = 0.0190  
 Travel time = 3.98 min. TC = 26.32 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.808  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.450  
 Decimal fraction soil group C = 0.550  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 82.40

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.501(In/Hr) for a 100.0 year storm  
 Subarea runoff = 17.079(CFS) for 8.450(Ac.)  
 Total runoff = 143.032(CFS) Total area = 56.340(Ac.)

+++++  
 Process from Point/Station 60.000 to Point/Station 61.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 1000.000(Ft.)  
 Top (of initial area) elevation = 1525.000(Ft.)  
 Bottom (of initial area) elevation = 1430.000(Ft.)  
 Difference in elevation = 95.000(Ft.)  
 Slope = 0.09500 s(percent)= 9.50  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.450 min.  
 Rainfall intensity = 3.619(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.856  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 87.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 26.615(CFS)  
 Total initial stream area = 8.590(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 61.000 to Point/Station 62.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1430.000(Ft.)  
 End of natural channel elevation = 1414.000(Ft.)  
 Length of natural channel = 1060.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 50.473(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(slope^{.492})$   
 Velocity using mean channel flow = 2.54(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0151  
 Corrected/adjusted channel slope = 0.0151  
 Travel time = 6.96 min. TC = 20.41 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.200  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 85.60  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.877(In/Hr) for a 100.0 year storm  
 Subarea runoff = 36.997(CFS) for 15.400(Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Total runoff = 63.612(CFS)      Total area = 23.990(Ac.)

+++++  
 Process from Point/Station      70.000 to Point/Station      71.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 927.000(Ft.)  
 Top (of initial area) elevation = 1608.000(Ft.)  
 Bottom (of initial area) elevation = 1520.000(Ft.)  
 Difference in elevation = 88.000(Ft.)  
 Slope = 0.09493 s(percent)= 9.49  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.051 min.  
 Rainfall intensity = 3.679(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.861  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 27.956(CFS)  
 Total initial stream area = 8.820(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station      71.000 to Point/Station      72.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1520.000(Ft.)  
 End of natural channel elevation = 1481.000(Ft.)  
 Length of natural channel = 1360.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 48.716(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 $Velocity = 5.48(q^{.33})(slope^{.492})$   
 Velocity using mean channel flow = 3.44(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0287  
 Corrected/adjusted channel slope = 0.0287  
 Travel time = 6.59 min.      TC = 19.64 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.844  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 87.20  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.939(In/Hr) for a 100.0 year storm  
 Subarea runoff = 32.488(CFS) for 13.100(Ac.)  
 Total runoff = 60.443(CFS)      Total area = 21.920(Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

+++++  
 Process from Point/Station 71.000 to Point/Station 72.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.848  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 88.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 19.64 min.  
 Rainfall intensity = 2.939(In/Hr) for a 100.0 year storm  
 Subarea runoff = 84.991(CFS) for 34.100(Ac.)  
 Total runoff = 145.434(CFS) Total area = 56.020(Ac.)

+++++  
 Process from Point/Station 72.000 to Point/Station 73.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1481.000(Ft.)  
 End of natural channel elevation = 1476.000(Ft.)  
 Length of natural channel = 385.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 200.472(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})$  (slope<sup>.492</sup>)  
 Velocity using mean channel flow = 3.72(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0130  
 Corrected/adjusted channel slope = 0.0130  
 Travel time = 1.73 min. TC = 21.36 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.840  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.700  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 86.90  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.806(In/Hr) for a 100.0 year storm  
 Subarea runoff = 99.918(CFS) for 42.400(Ac.)  
 Total runoff = 245.352(CFS) Total area = 98.420(Ac.)

+++++  
 Process from Point/Station 73.000 to Point/Station 74.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1476.000(Ft.)  
 End of natural channel elevation = 1461.000(Ft.)  
 Length of natural channel = 780.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 283.369(CFS)

Natural mountain channel type used

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 5.06(Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0192  
 Corrected/adjusted channel slope = 0.0192  
 Travel time = 2.57 min. TC = 23.93 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.800  
 Decimal fraction soil group D = 0.200  
 RI index for soil(AMC 2) = 86.60  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.636(In/Hr) for a 100.0 year storm  
 Subarea runoff = 67.104(CFS) for 30.500(Ac.)  
 Total runoff = 312.456(CFS) Total area = 128.920(Ac.)

+++++  
 Process from Point/Station 74.000 to Point/Station 75.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1461.000(Ft.)  
 End of natural channel elevation = 1449.000(Ft.)  
 Length of natural channel = 843.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 399.707(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 4.88(Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0142  
 Corrected/adjusted channel slope = 0.0142  
 Travel time = 2.88 min. TC = 26.81 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.828  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 86.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.476(In/Hr) for a 100.0 year storm  
 Subarea runoff = 147.638(CFS) for 72.000(Ac.)  
 Total runoff = 460.094(CFS) Total area = 200.920(Ac.)

+++++  
 Process from Point/Station 75.000 to Point/Station 76.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*



**Keller Crossing – Tr. 38163**  
**ATTACHMENT A – Rational Method, Existing Condition**

---

Top of natural channel elevation = 1449.000 (Ft.)  
 End of natural channel elevation = 1425.000 (Ft.)  
 Length of natural channel = 1147.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 482.078 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 6.28 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0209  
 Corrected/adjusted channel slope = 0.0209  
 Travel time = 3.04 min. TC = 29.85 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.827  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 86.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.334 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 37.085 (CFS) for 19.200 (Ac.)  
 Total runoff = 497.179 (CFS) Total area = 220.120 (Ac.)

+++++  
 Process from Point/Station 75.000 to Point/Station 76.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.814  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.200  
 Decimal fraction soil group C = 0.800  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 84.40  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 29.85 min.  
 Rainfall intensity = 2.334 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 15.600 (CFS) for 8.210 (Ac.)  
 Total runoff = 512.779 (CFS) Total area = 228.330 (Ac.)

+++++  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1425.000 (Ft.)  
 End of natural channel elevation = 1414.000 (Ft.)  
 Length of natural channel = 995.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 520.100 (CFS)

Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity(ft/s) =  $(7 + 8(q(\text{English Units})^{.352})(\text{slope}^{.5}))$   
 Velocity using mean channel flow = 8.34 (Ft/s)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0111  
 Corrected/adjusted channel slope = 0.0111  
 Travel time = 1.99 min. TC = 31.84 min.

Adding area flow to channel  
 SINGLE FAMILY (1/2 Acre Lot)  
 Runoff Coefficient = 0.741  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.800  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 58.60  
 Pervious area fraction = 0.600; Impervious fraction = 0.400  
 Rainfall intensity = 2.253(In/Hr) for a 100.0 year storm  
 Subarea runoff = 10.881(CFS) for 6.520(Ac.)  
 Total runoff = 523.660(CFS) Total area = 234.850(Ac.)

+++++  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 234.850(Ac.)  
 Runoff from this stream = 523.660(CFS)  
 Time of concentration = 31.84 min.  
 Rainfall intensity = 2.253(In/Hr)

+++++  
 Process from Point/Station 77.100 to Point/Station 77.200  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 583.000(Ft.)  
 Top (of initial area) elevation = 1549.000(Ft.)  
 Bottom (of initial area) elevation = 1481.000(Ft.)  
 Difference in elevation = 68.000(Ft.)  
 Slope = 0.11664 s(percent)= 11.66  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 10.403 min.  
 Rainfall intensity = 4.168(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.866  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 14.579(CFS)  
 Total initial stream area = 4.040(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 77.200 to Point/Station 77.300  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1481.000(Ft.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

End of natural channel elevation = 1445.000 (Ft.)  
 Length of natural channel = 805.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 47.597 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 4.25 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0447  
 Corrected/adjusted channel slope = 0.0447  
 Travel time = 3.16 min. TC = 13.56 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.843  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.400  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 84.60  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 3.603 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 55.593 (CFS) for 18.300 (Ac.)  
 Total runoff = 70.171 (CFS) Total area = 22.340 (Ac.)

\*\*\*\*\*  
 Process from Point/Station 77.300 to Point/Station 77.400  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1445.000 (Ft.)  
 End of natural channel elevation = 1422.000 (Ft.)  
 Length of natural channel = 1140.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 86.034 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.49 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0202  
 Corrected/adjusted channel slope = 0.0202  
 Travel time = 5.44 min. TC = 19.00 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.833  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 84.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.993 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 25.192 (CFS) for 10.100 (Ac.)  
 Total runoff = 95.364 (CFS) Total area = 32.440 (Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

+++++  
 Process from Point/Station            77.300 to Point/Station            77.400  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.838  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 85.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 19.00 min.  
 Rainfall intensity = 2.993(In/Hr) for a 100.0 year storm  
 Subarea runoff = 50.393(CFS) for 20.100(Ac.)  
 Total runoff = 145.757(CFS)    Total area = 52.540(Ac.)

+++++  
 Process from Point/Station            77.400 to Point/Station            77.000  
 \*\*\*\* IMPROVED CHANNEL TRAVEL TIME \*\*\*\*

---

Upstream point elevation = 1422.000(Ft.)  
 Downstream point elevation = 1415.000(Ft.)  
 Channel length thru subarea = 356.000(Ft.)  
 Channel base width = 10.000(Ft.)  
 Slope or 'Z' of left channel bank = 2.000  
 Slope or 'Z' of right channel bank = 2.000  
 Manning's 'N' = 0.025  
 Maximum depth of channel = 4.000(Ft.)  
 Flow(q) thru subarea = 145.757(CFS)  
 Depth of flow = 1.331(Ft.), Average velocity = 8.647(Ft/s)  
 Channel flow top width = 15.325(Ft.)  
 Flow Velocity = 8.65(Ft/s)  
 Travel time = 0.69 min.  
 Time of concentration = 19.69 min.

Sub-Channel No. 1 Critical depth = 1.672(Ft.)  
 '        '        '        Critical flow top width = 16.688(Ft.)  
 '        '        '        Critical flow velocity= 6.534(Ft/s)  
 '        '        '        Critical flow area = 22.309(Sq.Ft)

+++++  
 Process from Point/Station            77.400 to Point/Station            77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 52.540(Ac.)  
 Runoff from this stream = 145.757(CFS)  
 Time of concentration = 19.69 min.  
 Rainfall intensity = 2.935(In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	523.660	31.84	2.253
2	145.757	19.69	2.935

# Keller Crossing – Tr. 38163

## ATTACHMENT A – Rational Method, Existing Condition

Largest stream flow has longer time of concentration

$$Q_p = 523.660 + \text{sum of}$$

$$Q_b \quad I_a/I_b$$

$$145.757 * 0.768 = 111.882$$

$$Q_p = 635.542$$

Total of 2 streams to confluence:

Flow rates before confluence point:

523.660      145.757

Area of streams before confluence:

234.850      52.540

Results of confluence:

Total flow rate = 635.542 (CFS)

Time of concentration = 31.842 min.

Effective stream area after confluence = 287.390 (Ac.)

+++++  
 Process from Point/Station 77.000 to Point/Station 78.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1415.000 (Ft.)  
 End of natural channel elevation = 1407.000 (Ft.)  
 Length of natural channel = 890.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 661.526 (CFS)

Natural valley channel type used

L.A. County flood control district formula for channel velocity:

Velocity (ft/s) =  $(7 + 8(q(\text{English Units})^{.352})(\text{slope}^{.5}))$

Velocity using mean channel flow = 8.12 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)

Normal channel slope = 0.0090

Corrected/adjusted channel slope = 0.0090

Travel time = 1.83 min.      TC = 33.67 min.

Adding area flow to channel

SINGLE FAMILY (1/2 Acre Lot)

Runoff Coefficient = 0.743

Decimal fraction soil group A = 0.000

Decimal fraction soil group B = 0.700

Decimal fraction soil group C = 0.300

Decimal fraction soil group D = 0.000

RI index for soil (AMC 2) = 59.90

Pervious area fraction = 0.600; Impervious fraction = 0.400

Rainfall intensity = 2.185 (In/Hr) for a 100.0 year storm

Subarea runoff = 38.167 (CFS) for 23.500 (Ac.)

Total runoff = 673.708 (CFS)      Total area = 310.890 (Ac.)

End of computations, total study area = 471.19 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction (Ap) = 0.975

Area averaged RI index number = 85.0

# **ATTACHMENT B:**

**DEVELOPED CONDITION - RATIONAL METHOD HYDROLOGY**

**FOR 10-YEAR AND 100-YEAR STORM**

# **Rational Methods Hydrology Proposed Condition**

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version 7.1  
Rational Hydrology Study                      Date: 11/03/21    File:kcpr10.out

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KELLER Crossing Project  
Hydrology Developed Condition  
10-year storm

-----

\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file

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Program License Serial Number 4029

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Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.528(In.)  
100 year, 1 hour precipitation = 1.590(In.)

Storm event year = 10.0  
Calculated rainfall intensity data:  
1 hour intensity = 0.965(In/Hr)  
Slope of intensity duration curve = 0.5500

+++++  
Process from Point/Station                      20.000 to Point/Station                      21.000  
\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

Initial area flow distance = 855.000(Ft.)  
Top (of initial area) elevation = 1597.000(Ft.)  
Bottom (of initial area) elevation = 1488.000(Ft.)  
Difference in elevation = 109.000(Ft.)  
Slope = 0.12749 s(percent)= 12.75  
TC = k(0.530)\*[(length^3)/(elevation change)]^0.2  
Initial area time of concentration = 11.912 min.  
Rainfall intensity = 2.348(In/Hr) for a 10.0 year storm  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.841  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 1.000  
RI index for soil(AMC 2) = 89.00  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Initial subarea runoff = 16.981(CFS)



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Total initial stream area = 8.600 (Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 21.000 to Point/Station 22.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1488.000 (Ft.)  
 End of natural channel elevation = 1465.000 (Ft.)  
 Length of natural channel = 715.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 36.924 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.32 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0322  
 Corrected/adjusted channel slope = 0.0322  
 Travel time = 3.59 min. TC = 15.50 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.826  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.350  
 Decimal fraction soil group D = 0.650  
 RI index for soil(AMC 2) = 87.95  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.032 (In/Hr) for a 10.0 year storm  
 Subarea runoff = 33.888 (CFS) for 20.200 (Ac.)  
 Total runoff = 50.869 (CFS) Total area = 28.800 (Ac.)

+++++  
 Process from Point/Station 22.000 to Point/Station 23.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1465.000 (Ft.)  
 End of natural channel elevation = 1446.000 (Ft.)  
 Length of natural channel = 795.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 76.303 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.65 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0239  
 Corrected/adjusted channel slope = 0.0239  
 Travel time = 3.63 min. TC = 19.13 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.795

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 84.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.809(In/Hr) for a 10.0 year storm  
 Subarea runoff = 41.430(CFS) for 28.800(Ac.)  
 Total runoff = 92.299(CFS) Total area = 57.600(Ac.)

++++++  
 Process from Point/Station 40.000 to Point/Station 40.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 0.860(In/Hr) for a 10.0 year storm  
 APARTMENT subarea type  
 Runoff Coefficient = 0.834  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 72.60  
 Pervious area fraction = 0.200; Impervious fraction = 0.800  
 User specified values are as follows:  
 TC = 74.00 min. Rain intensity = 0.86(In/Hr)  
 Total area = 6.20(Ac.) Total runoff = 4.10(CFS)

++++++  
 Process from Point/Station 40.000 to Point/Station 41.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1460.000(Ft.)  
 Downstream point/station elevation = 1440.000(Ft.)  
 Pipe length = 200.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 4.100(CFS)  
 Nearest computed pipe diameter = 9.00(In.)  
 Calculated individual pipe flow = 4.100(CFS)  
 Normal flow depth in pipe = 6.00(In.)  
 Flow top width inside pipe = 8.49(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 13.11(Ft/s)  
 Travel time through pipe = 0.25 min.  
 Time of concentration (TC) = 74.25 min.

++++++  
 Process from Point/Station 40.000 to Point/Station 41.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.863  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 69.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 74.25 min.  
 Rainfall intensity = 0.858(In/Hr) for a 10.0 year storm  
 Subarea runoff = 1.318(CFS) for 1.780(Ac.)  
 Total runoff = 5.418(CFS) Total area = 7.980(Ac.)

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

+++++  
 Process from Point/Station            50.000 to Point/Station            51.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 1000.000(Ft.)  
 Top (of initial area) elevation = 1589.000(Ft.)  
 Bottom (of initial area) elevation = 1496.000(Ft.)  
 Difference in elevation = 93.000(Ft.)  
 Slope = 0.09300 s(percent)= 9.30  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.508 min.  
 Rainfall intensity = 2.191(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.100  
 Decimal fraction soil group D = 0.900  
 RI index for soil(AMC 2) = 88.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 17.916(CFS)  
 Total initial stream area = 9.790(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station            51.000 to Point/Station            52.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1496.000(Ft.)  
 End of natural channel elevation = 1478.000(Ft.)  
 Length of natural channel = 593.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 32.283(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
 Velocity using mean channel flow = 3.09(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0304  
 Corrected/adjusted channel slope = 0.0304  
 Travel time = 3.20 min.      TC = 16.71 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.825  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.250  
 Decimal fraction soil group D = 0.750  
 RI index for soil(AMC 2) = 88.25  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.949(In/Hr) for a 10.0 year storm  
 Subarea runoff = 25.246(CFS) for 15.700(Ac.)  
 Total runoff = 43.162(CFS)      Total area = 25.490(Ac.)

+++++

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Process from Point/Station 52.000 to Point/Station 53.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

Top of natural channel elevation = 1478.000 (Ft.)  
 End of natural channel elevation = 1469.000 (Ft.)  
 Length of natural channel = 597.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 52.136 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 2.57 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0151  
 Corrected/adjusted channel slope = 0.0151  
 Travel time = 3.88 min. TC = 20.58 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.815  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 88.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.738 (In/Hr) for a 10.0 year storm  
 Subarea runoff = 15.023 (CFS) for 10.600 (Ac.)  
 Total runoff = 58.185 (CFS) Total area = 36.090 (Ac.)

+++++  
 Process from Point/Station 53.000 to Point/Station 54.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

Upstream point/station elevation = 1469.000 (Ft.)  
 Downstream point/station elevation = 1462.000 (Ft.)  
 Pipe length = 680.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 58.185 (CFS)  
 Nearest computed pipe diameter = 36.00 (In.)  
 Calculated individual pipe flow = 58.185 (CFS)  
 Normal flow depth in pipe = 25.73 (In.)  
 Flow top width inside pipe = 32.51 (In.)  
 Critical Depth = 29.62 (In.)  
 Pipe flow velocity = 10.77 (Ft/s)  
 Travel time through pipe = 1.05 min.  
 Time of concentration (TC) = 21.64 min.

+++++  
 Process from Point/Station 53.000 to Point/Station 54.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.809  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 87.50

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 21.64 min.  
 Rainfall intensity = 1.691(In/Hr) for a 10.0 year storm  
 Subarea runoff = 2.640(CFS) for 1.930(Ac.)  
 Total runoff = 60.824(CFS) Total area = 38.020(Ac.)

+++++  
 Process from Point/Station 54.000 to Point/Station 55.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1462.000(Ft.)  
 Downstream point/station elevation = 1438.000(Ft.)  
 Pipe length = 689.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 60.824(CFS)  
 Nearest computed pipe diameter = 27.00(In.)  
 Calculated individual pipe flow = 60.824(CFS)  
 Normal flow depth in pipe = 23.72(In.)  
 Flow top width inside pipe = 17.64(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 16.45(Ft/s)  
 Travel time through pipe = 0.70 min.  
 Time of concentration (TC) = 22.34 min.

+++++  
 Process from Point/Station 55.000 to Point/Station 55.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 0.853(In/Hr) for a 10.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.781  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 User specified values are as follows:  
 TC = 75.00 min. Rain intensity = 0.85(In/Hr)  
 Total area = 59.90(Ac.) Total runoff = 12.12(CFS)

+++++  
 Process from Point/Station 55.000 to Point/Station 56.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1429.000(Ft.)  
 Downstream point/station elevation = 1426.000(Ft.)  
 Pipe length = 125.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 12.120(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 12.120(CFS)  
 Normal flow depth in pipe = 11.58(In.)  
 Flow top width inside pipe = 17.25(In.)  
 Critical Depth = 15.82(In.)  
 Pipe flow velocity = 10.09(Ft/s)  
 Travel time through pipe = 0.21 min.  
 Time of concentration (TC) = 75.21 min.

+++++  
 Process from Point/Station 55.000 to Point/Station 56.000

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
Runoff Coefficient = 0.869  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 1.000  
RI index for soil(AMC 2) = 75.00  
Pervious area fraction = 0.100; Impervious fraction = 0.900  
Time of concentration = 75.21 min.  
Rainfall intensity = 0.852(In/Hr) for a 10.0 year storm  
Subarea runoff = 0.889(CFS) for 1.200(Ac.)  
Total runoff = 13.009(CFS) Total area = 61.100(Ac.)

+++++  
Process from Point/Station 57.000 to Point/Station 57.000  
\*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 0.965(In/Hr) for a 10.0 year storm  
SINGLE FAMILY (1/4 Acre Lot)  
Runoff Coefficient = 0.743  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.500  
Decimal fraction soil group D = 0.500  
RI index for soil(AMC 2) = 72.00  
Pervious area fraction = 0.500; Impervious fraction = 0.500  
User specified values are as follows:  
TC = 60.00 min. Rain intensity = 0.96(In/Hr)  
Total area = 14.22(Ac.) Total runoff = 10.66(CFS)

+++++  
Process from Point/Station 57.000 to Point/Station 58.000  
\*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1445.000(Ft.)  
Downstream point/station elevation = 1430.000(Ft.)  
Pipe length = 320.00(Ft.) Manning's N = 0.013  
No. of pipes = 1 Required pipe flow = 10.660(CFS)  
Nearest computed pipe diameter = 15.00(In.)  
Calculated individual pipe flow = 10.660(CFS)  
Normal flow depth in pipe = 9.80(In.)  
Flow top width inside pipe = 14.28(In.)  
Critical depth could not be calculated.  
Pipe flow velocity = 12.55(Ft/s)  
Travel time through pipe = 0.43 min.  
Time of concentration (TC) = 60.43 min.

+++++  
Process from Point/Station 57.000 to Point/Station 58.000  
\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
Runoff Coefficient = 0.865  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 1.000  
Decimal fraction soil group D = 0.000  
RI index for soil(AMC 2) = 69.00

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 60.43 min.  
 Rainfall intensity = 0.961(In/Hr) for a 10.0 year storm  
 Subarea runoff = 1.040(CFS) for 1.250(Ac.)  
 Total runoff = 11.700(CFS) Total area = 15.470(Ac.)

+++++  
 Process from Point/Station 61.000 to Point/Station 62.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 710.000(Ft.)  
 Top (of initial area) elevation = 1432.000(Ft.)  
 Bottom (of initial area) elevation = 1414.000(Ft.)  
 Difference in elevation = 18.000(Ft.)  
 Slope = 0.02535 s(percent)= 2.54  
 $TC = k(0.480)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.834 min.  
 Rainfall intensity = 2.162(In/Hr) for a 10.0 year storm  
 SINGLE FAMILY (1 Acre Lot)  
 Runoff Coefficient = 0.764  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 72.60  
 Pervious area fraction = 0.800; Impervious fraction = 0.200  
 Initial subarea runoff = 10.806(CFS)  
 Total initial stream area = 6.540(Ac.)  
 Pervious area fraction = 0.800

+++++  
 Process from Point/Station 70.000 to Point/Station 71.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 927.000(Ft.)  
 Top (of initial area) elevation = 1608.000(Ft.)  
 Bottom (of initial area) elevation = 1520.000(Ft.)  
 Difference in elevation = 88.000(Ft.)  
 Slope = 0.09493 s(percent)= 9.49  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.051 min.  
 Rainfall intensity = 2.233(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.838  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 16.507(CFS)  
 Total initial stream area = 8.820(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 71.000 to Point/Station 72.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1520.000(Ft.)  
 End of natural channel elevation = 1481.000(Ft.)

## Keller Crossing – Tr. 38163

### ATTACHMENT B – Rational Method, Proposed Condition

Length of natural channel = 1360.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 28.765 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 2.89 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0287  
 Corrected/adjusted channel slope = 0.0287  
 Travel time = 7.84 min. TC = 20.89 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.808  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 87.20  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.724 (In/Hr) for a 10.0 year storm  
 Subarea runoff = 18.254 (CFS) for 13.100 (Ac.)  
 Total runoff = 34.761 (CFS) Total area = 21.920 (Ac.)

\*\*\*\*\*  
 Process from Point/Station 71.000 to Point/Station 72.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.815  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 88.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 20.89 min.  
 Rainfall intensity = 1.724 (In/Hr) for a 10.0 year storm  
 Subarea runoff = 47.907 (CFS) for 34.100 (Ac.)  
 Total runoff = 82.668 (CFS) Total area = 56.020 (Ac.)

\*\*\*\*\*  
 Process from Point/Station 72.000 to Point/Station 73.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1481.000 (Ft.)  
 End of natural channel elevation = 1476.000 (Ft.)  
 Length of natural channel = 385.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 113.657 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 3.08 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Normal channel slope = 0.0130  
 Corrected/adjusted channel slope = 0.0130  
 Travel time = 2.08 min. TC = 22.97 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.802  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.700  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 86.90  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.636(In/Hr) for a 10.0 year storm  
 Subarea runoff = 55.085(CFS) for 42.000(Ac.)  
 Total runoff = 137.753(CFS) Total area = 98.020(Ac.)

+++++  
 Process from Point/Station 73.000 to Point/Station 74.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1476.000(Ft.)  
 End of natural channel elevation = 1461.000(Ft.)  
 Length of natural channel = 780.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 159.185(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
 Velocity using mean channel flow = 4.18(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0192  
 Corrected/adjusted channel slope = 0.0192  
 Travel time = 3.11 min. TC = 26.08 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.793  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.800  
 Decimal fraction soil group D = 0.200  
 RI index for soil(AMC 2) = 86.60  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.526(In/Hr) for a 10.0 year storm  
 Subarea runoff = 36.897(CFS) for 30.500(Ac.)  
 Total runoff = 174.650(CFS) Total area = 128.520(Ac.)

+++++  
 Process from Point/Station 74.000 to Point/Station 75.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1461.000(Ft.)  
 End of natural channel elevation = 1449.000(Ft.)  
 Length of natural channel = 843.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 223.571(CFS)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 4.03(Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0142  
 Corrected/adjusted channel slope = 0.0142  
 Travel time = 3.48 min. TC = 29.56 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.782  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 86.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.424(In/Hr) for a 10.0 year storm  
 Subarea runoff = 80.170(CFS) for 72.000(Ac.)  
 Total runoff = 254.820(CFS) Total area = 200.520(Ac.)

+++++  
 Process from Point/Station 75.000 to Point/Station 76.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1449.000(Ft.)  
 End of natural channel elevation = 1439.000(Ft.)  
 Length of natural channel = 483.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 262.064(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 5.11(Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0207  
 Corrected/adjusted channel slope = 0.0207  
 Travel time = 1.58 min. TC = 31.14 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.784  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 86.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.384(In/Hr) for a 10.0 year storm  
 Subarea runoff = 12.372(CFS) for 11.400(Ac.)  
 Total runoff = 267.192(CFS) Total area = 211.920(Ac.)

+++++  
 Process from Point/Station 76.000 to Point/Station 77.000

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

\*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1435.000(Ft.)  
 Downstream point/station elevation = 1418.000(Ft.)  
 Pipe length = 1255.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 267.192(CFS)  
 Nearest computed pipe diameter = 57.00(In.)  
 Calculated individual pipe flow = 267.192(CFS)  
 Normal flow depth in pipe = 47.25(In.)  
 Flow top width inside pipe = 42.93(In.)  
 Critical Depth = 53.39(In.)  
 Pipe flow velocity = 17.00(Ft/s)  
 Travel time through pipe = 1.23 min.  
 Time of concentration (TC) = 32.37 min.

+++++  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 211.920(Ac.)  
 Runoff from this stream = 267.192(CFS)  
 Time of concentration = 32.37 min.  
 Rainfall intensity = 1.355(In/Hr)

+++++  
 Process from Point/Station 77.000 to Point/Station 77.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 0.853(In/Hr) for a 10.0 year storm  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.720  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.200  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 70.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 User specified values are as follows:  
 TC = 75.00 min. Rain intensity = 0.85(In/Hr)  
 Total area = 91.50(Ac.) Total runoff = 18.31(CFS)

+++++  
 Process from Point/Station 77.000 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 91.500(Ac.)  
 Runoff from this stream = 18.310(CFS)  
 Time of concentration = 75.00 min.  
 Rainfall intensity = 0.853(In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	267.192	32.37	1.355
2	18.310	75.00	0.853

Largest stream flow has longer or shorter time of concentration

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

Qp = 267.192 + sum of  
       Qa           Tb/Ta  
       18.310 \*    0.432 =       7.902  
 Qp = 275.095

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
       267.192       18.310  
 Area of streams before confluence:  
       211.920       91.500  
 Results of confluence:  
 Total flow rate = 275.095(CFS)  
 Time of concentration = 32.368 min.  
 Effective stream area after confluence = 303.420(Ac.)

+++++  
 Process from Point/Station       77.000 to Point/Station       78.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1418.000(Ft.)  
 Downstream point/station elevation = 1414.000(Ft.)  
 Pipe length = 615.00(Ft.)   Manning's N = 0.013  
 No. of pipes = 1   Required pipe flow = 275.095(CFS)  
 Nearest computed pipe diameter = 66.00(In.)  
 Calculated individual pipe flow = 275.095(CFS)  
 Normal flow depth in pipe = 55.13(In.)  
 Flow top width inside pipe = 48.97(In.)  
 Critical Depth = 55.22(In.)  
 Pipe flow velocity = 12.98(Ft/s)  
 Travel time through pipe = 0.79 min.  
 Time of concentration (TC) = 33.16 min.

+++++  
 Process from Point/Station       77.000 to Point/Station       78.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 303.420(Ac.)  
 Runoff from this stream = 275.095(CFS)  
 Time of concentration = 33.16 min.  
 Rainfall intensity = 1.337(In/Hr)

+++++  
 Process from Point/Station       78.100 to Point/Station       78.200  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 985.000(Ft.)  
 Top (of initial area) elevation = 1680.000(Ft.)  
 Bottom (of initial area) elevation = 1425.000(Ft.)  
 Difference in elevation = 255.000(Ft.)  
 Slope = 0.25888 s(percent)= 25.89  
 TC = k(0.530)\*[(length^3)/(elevation change)]^0.2  
 Initial area time of concentration = 10.940 min.  
 Rainfall intensity = 2.460(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

RI index for soil(AMC 2) = 87.50  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 7.954(CFS)  
 Total initial stream area = 3.870(Ac.)  
 Pervious area fraction = 1.000

++++++  
 Process from Point/Station 78.200 to Point/Station 78.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1425.000(Ft.)  
 End of natural channel elevation = 1414.000(Ft.)  
 Length of natural channel = 995.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 15.702(CFS)

Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity(ft/s) = (7 + 8(q(English Units)<sup>.352</sup>)(slope<sup>0.5</sup>)  
 Velocity using mean channel flow = 2.95(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0111  
 Corrected/adjusted channel slope = 0.0111  
 Travel time = 5.61 min. TC = 16.56 min.

Adding area flow to channel  
 SINGLE FAMILY (1/2 Acre Lot)  
 Runoff Coefficient = 0.725  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.800  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 58.60  
 Pervious area fraction = 0.600; Impervious fraction = 0.400  
 Rainfall intensity = 1.959(In/Hr) for a 10.0 year storm  
 Subarea runoff = 10.704(CFS) for 7.540(Ac.)  
 Total runoff = 18.658(CFS) Total area = 11.410(Ac.)

++++++  
 Process from Point/Station 78.200 to Point/Station 78.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 11.410(Ac.)  
 Runoff from this stream = 18.658(CFS)  
 Time of concentration = 16.56 min.  
 Rainfall intensity = 1.959(In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	275.095	33.16	1.337
2	18.658	16.56	1.959

Largest stream flow has longer time of concentration  
 $Q_p = 275.095 + \text{sum of } Q_b \frac{I_a}{I_b}$   
 $18.658 * 0.682 = 12.734$

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Qp = 287.829

Total of 2 streams to confluence:

Flow rates before confluence point:

275.095 18.658

Area of streams before confluence:

303.420 11.410

Results of confluence:

Total flow rate = 287.829(CFS)

Time of concentration = 33.158 min.

Effective stream area after confluence = 314.830(Ac.)

+++++  
 Process from Point/Station 78.000 to Point/Station 79.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1414.000(Ft.)  
 End of natural channel elevation = 1407.000(Ft.)  
 Length of natural channel = 890.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 298.571(CFS)

Natural valley channel type used

L.A. County flood control district formula for channel velocity:

Velocity(ft/s) = (7 + 8(q(English Units)<sup>0.352</sup>)(slope<sup>0.5</sup>)

Velocity using mean channel flow = 5.90(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)

Normal channel slope = 0.0079

Corrected/adjusted channel slope = 0.0079

Travel time = 2.52 min. TC = 35.67 min.

Adding area flow to channel

SINGLE FAMILY (1/2 Acre Lot)

Runoff Coefficient = 0.679

Decimal fraction soil group A = 0.000

Decimal fraction soil group B = 0.700

Decimal fraction soil group C = 0.300

Decimal fraction soil group D = 0.000

RI index for soil(AMC 2) = 59.90

Pervious area fraction = 0.600; Impervious fraction = 0.400

Rainfall intensity = 1.284(In/Hr) for a 10.0 year storm

Subarea runoff = 20.481(CFS) for 23.500(Ac.)

Total runoff = 308.310(CFS) Total area = 338.330(Ac.)

+++++  
 Process from Point/Station 1.000 to Point/Station 1.100  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 412.000(Ft.)  
 Top (of initial area) elevation = 1501.000(Ft.)  
 Bottom (of initial area) elevation = 1493.000(Ft.)  
 Difference in elevation = 8.000(Ft.)  
 Slope = 0.01942 s(percent) = 1.94  
 TC = k(0.370)\*[(length<sup>3</sup>)/(elevation change)]<sup>0.2</sup>  
 Initial area time of concentration = 9.047 min.  
 Rainfall intensity = 2.731(In/Hr) for a 10.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.856  
 Decimal fraction soil group A = 0.000

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 3.694(CFS)  
 Total initial stream area = 1.580(Ac.)  
 Pervious area fraction = 0.350

++++++  
 Process from Point/Station 1.100 to Point/Station 1.200  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1496.000(Ft.)  
 Downstream point/station elevation = 1483.000(Ft.)  
 Pipe length = 288.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 3.694(CFS)  
 Nearest computed pipe diameter = 12.00(In.)  
 Calculated individual pipe flow = 3.694(CFS)  
 Normal flow depth in pipe = 5.92(In.)  
 Flow top width inside pipe = 12.00(In.)  
 Critical Depth = 9.83(In.)  
 Pipe flow velocity = 9.58(Ft/s)  
 Travel time through pipe = 0.50 min.  
 Time of concentration (TC) = 9.55 min.

++++++  
 Process from Point/Station 1.100 to Point/Station 1.200  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.855  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 9.55 min.  
 Rainfall intensity = 2.652(In/Hr) for a 10.0 year storm  
 Subarea runoff = 8.228(CFS) for 3.630(Ac.)  
 Total runoff = 11.921(CFS) Total area = 5.210(Ac.)

++++++  
 Process from Point/Station 1.200 to Point/Station 1.300  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1483.000(Ft.)  
 Downstream point/station elevation = 1478.000(Ft.)  
 Pipe length = 312.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 11.921(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 11.921(CFS)  
 Normal flow depth in pipe = 13.31(In.)  
 Flow top width inside pipe = 15.80(In.)  
 Critical Depth = 15.74(In.)  
 Pipe flow velocity = 8.51(Ft/s)  
 Travel time through pipe = 0.61 min.  
 Time of concentration (TC) = 10.16 min.

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

```

+++++
Process from Point/Station      1.200 to Point/Station      1.300
**** SUBAREA FLOW ADDITION ****

```

---

```

CONDOMINIUM subarea type
Runoff Coefficient = 0.853
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 75.00
Pervious area fraction = 0.350; Impervious fraction = 0.650
Time of concentration = 10.16 min.
Rainfall intensity = 2.563(In/Hr) for a 10.0 year storm
Subarea runoff = 7.502(CFS) for 3.430(Ac.)
Total runoff = 19.423(CFS) Total area = 8.640(Ac.)

```

```

+++++
Process from Point/Station      1.300 to Point/Station      1.400
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1478.000(Ft.)
Downstream point/station elevation = 1474.000(Ft.)
Pipe length = 379.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 19.423(CFS)
Nearest computed pipe diameter = 24.00(In.)
Calculated individual pipe flow = 19.423(CFS)
Normal flow depth in pipe = 16.78(In.)
Flow top width inside pipe = 22.01(In.)
Critical Depth = 19.01(In.)
Pipe flow velocity = 8.28(Ft/s)
Travel time through pipe = 0.76 min.
Time of concentration (TC) = 10.92 min.

```

```

+++++
Process from Point/Station      1.300 to Point/Station      1.400
**** SUBAREA FLOW ADDITION ****

```

---

```

UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.844
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Time of concentration = 10.92 min.
Rainfall intensity = 2.463(In/Hr) for a 10.0 year storm
Subarea runoff = 0.499(CFS) for 0.240(Ac.)
Total runoff = 19.922(CFS) Total area = 8.880(Ac.)

```

```

+++++
Process from Point/Station      1.400 to Point/Station      1.500
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1474.000(Ft.)
Downstream point/station elevation = 1473.000(Ft.)
Pipe length = 116.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 19.922(CFS)

```



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Nearest computed pipe diameter = 24.00(In.)  
 Calculated individual pipe flow = 19.922(CFS)  
 Normal flow depth in pipe = 18.66(In.)  
 Flow top width inside pipe = 19.97(In.)  
 Critical Depth = 19.24(In.)  
 Pipe flow velocity = 7.61(Ft/s)  
 Travel time through pipe = 0.25 min.  
 Time of concentration (TC) = 11.18 min.

++++++  
 Process from Point/Station 1.400 to Point/Station 1.500  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.851  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.18 min.  
 Rainfall intensity = 2.432(In/Hr) for a 10.0 year storm  
 Subarea runoff = 9.626(CFS) for 4.650(Ac.)  
 Total runoff = 29.548(CFS) Total area = 13.530(Ac.)

++++++  
 Process from Point/Station 1.400 to Point/Station 1.500  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.851  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.18 min.  
 Rainfall intensity = 2.432(In/Hr) for a 10.0 year storm  
 Subarea runoff = 6.997(CFS) for 3.380(Ac.)  
 Total runoff = 36.545(CFS) Total area = 16.910(Ac.)

++++++  
 Process from Point/Station 1.500 to Point/Station 1.600  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1473.000(Ft.)  
 Downstream point/station elevation = 1472.500(Ft.)  
 Pipe length = 40.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 36.545(CFS)  
 Nearest computed pipe diameter = 27.00(In.)  
 Calculated individual pipe flow = 36.545(CFS)  
 Normal flow depth in pipe = 23.81(In.)  
 Flow top width inside pipe = 17.42(In.)  
 Critical Depth = 24.48(In.)  
 Pipe flow velocity = 9.85(Ft/s)  
 Travel time through pipe = 0.07 min.  
 Time of concentration (TC) = 11.24 min.

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

+++++  
 Process from Point/Station            1.500 to Point/Station            1.600  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.843  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 11.24 min.  
 Rainfall intensity = 2.424(In/Hr) for a 10.0 year storm  
 Subarea runoff = 3.983(CFS) for 1.950(Ac.)  
 Total runoff = 40.528(CFS)    Total area = 18.860(Ac.)

+++++  
 Process from Point/Station            1.600 to Point/Station            1.700  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1472.500(Ft.)  
 Downstream point/station elevation = 1465.000(Ft.)  
 Pipe length = 230.00(Ft.)    Manning's N = 0.013  
 No. of pipes = 1    Required pipe flow = 40.528(CFS)  
 Nearest computed pipe diameter = 24.00(In.)  
 Calculated individual pipe flow = 40.528(CFS)  
 Normal flow depth in pipe = 19.50(In.)  
 Flow top width inside pipe = 18.73(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 14.82(Ft/s)  
 Travel time through pipe = 0.26 min.  
 Time of concentration (TC) = 11.50 min.

+++++  
 Process from Point/Station            1.600 to Point/Station            1.700  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.833  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.400  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 67.40  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.50 min.  
 Rainfall intensity = 2.394(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.518(CFS) for 3.770(Ac.)  
 Total runoff = 48.046(CFS)    Total area = 22.630(Ac.)

+++++  
 Process from Point/Station            1.700 to Point/Station            1.800  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1465.000(Ft.)  
 Downstream point/station elevation = 1463.000(Ft.)  
 Pipe length = 65.00(Ft.)    Manning's N = 0.013  
 No. of pipes = 1    Required pipe flow = 48.046(CFS)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Nearest computed pipe diameter = 27.00 (In.)  
 Calculated individual pipe flow = 48.046 (CFS)  
 Normal flow depth in pipe = 19.73 (In.)  
 Flow top width inside pipe = 23.95 (In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 15.43 (Ft/s)  
 Travel time through pipe = 0.07 min.  
 Time of concentration (TC) = 11.57 min.

++++++  
 Process from Point/Station 1.700 to Point/Station 1.800  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 22.630 (Ac.)  
 Runoff from this stream = 48.046 (CFS)  
 Time of concentration = 11.57 min.  
 Rainfall intensity = 2.386 (In/Hr)

++++++  
 Process from Point/Station 1.810 to Point/Station 1.820  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 998.000 (Ft.)  
 Top (of initial area) elevation = 1492.000 (Ft.)  
 Bottom (of initial area) elevation = 1472.000 (Ft.)  
 Difference in elevation = 20.000 (Ft.)  
 Slope = 0.02004 s(percent) = 2.00  
 $TC = k(0.370) * [(length^3) / (elevation\ change)]^{0.2}$   
 Initial area time of concentration = 12.808 min.  
 Rainfall intensity = 2.256 (In/Hr) for a 10.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.848  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil (AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 5.434 (CFS)  
 Total initial stream area = 2.840 (Ac.)  
 Pervious area fraction = 0.350

++++++  
 Process from Point/Station 1.820 to Point/Station 1.830  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1467.000 (Ft.)  
 Downstream point/station elevation = 1466.000 (Ft.)  
 Pipe length = 35.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 5.434 (CFS)  
 Nearest computed pipe diameter = 12.00 (In.)  
 Calculated individual pipe flow = 5.434 (CFS)  
 Normal flow depth in pipe = 8.92 (In.)  
 Flow top width inside pipe = 10.49 (In.)  
 Critical Depth = 11.24 (In.)  
 Pipe flow velocity = 8.68 (Ft/s)  
 Travel time through pipe = 0.07 min.  
 Time of concentration (TC) = 12.87 min.

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

```

+++++
Process from Point/Station      1.820 to Point/Station      1.830
**** SUBAREA FLOW ADDITION ****

```

---

```

CONDOMINIUM subarea type
Runoff Coefficient = 0.848
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 75.00
Pervious area fraction = 0.350; Impervious fraction = 0.650
Time of concentration = 12.87 min.
Rainfall intensity = 2.250(In/Hr) for a 10.0 year storm
Subarea runoff = 4.884(CFS) for 2.560(Ac.)
Total runoff = 10.318(CFS) Total area = 5.400(Ac.)

```

```

+++++
Process from Point/Station      1.830 to Point/Station      1.840
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1466.000(Ft.)
Downstream point/station elevation = 1464.000(Ft.)
Pipe length = 325.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 10.318(CFS)
Nearest computed pipe diameter = 21.00(In.)
Calculated individual pipe flow = 10.318(CFS)
Normal flow depth in pipe = 14.60(In.)
Flow top width inside pipe = 19.33(In.)
Critical Depth = 14.36(In.)
Pipe flow velocity = 5.78(Ft/s)
Travel time through pipe = 0.94 min.
Time of concentration (TC) = 13.81 min.

```

```

+++++
Process from Point/Station      1.830 to Point/Station      1.840
**** SUBAREA FLOW ADDITION ****

```

---

```

CONDOMINIUM subarea type
Runoff Coefficient = 0.823
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2) = 65.50
Pervious area fraction = 0.350; Impervious fraction = 0.650
Time of concentration = 13.81 min.
Rainfall intensity = 2.164(In/Hr) for a 10.0 year storm
Subarea runoff = 4.417(CFS) for 2.480(Ac.)
Total runoff = 14.735(CFS) Total area = 7.880(Ac.)

```

```

+++++
Process from Point/Station      1.840 to Point/Station      1.800
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1464.000(Ft.)
Downstream point/station elevation = 1463.000(Ft.)
Pipe length = 135.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 14.735(CFS)

```

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Nearest computed pipe diameter = 24.00 (In.)  
 Calculated individual pipe flow = 14.735 (CFS)  
 Normal flow depth in pipe = 15.61 (In.)  
 Flow top width inside pipe = 22.89 (In.)  
 Critical Depth = 16.59 (In.)  
 Pipe flow velocity = 6.81 (Ft/s)  
 Travel time through pipe = 0.33 min.  
 Time of concentration (TC) = 14.14 min.

++++++  
 Process from Point/Station 1.840 to Point/Station 1.800  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 7.880 (Ac.)  
 Runoff from this stream = 14.735 (CFS)  
 Time of concentration = 14.14 min.  
 Rainfall intensity = 2.136 (In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	48.046	11.57	2.386
2	14.735	14.14	2.136

Largest stream flow has longer or shorter time of concentration  
 $Q_p = 48.046 + \text{sum of } \frac{Q_a \cdot T_b}{T_a}$   
 $Q_p = 14.735 * 0.818 = 12.057$   
 $Q_p = 60.103$

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
     48.046      14.735  
 Area of streams before confluence:  
     22.630      7.880  
 Results of confluence:  
 Total flow rate = 60.103 (CFS)  
 Time of concentration = 11.573 min.  
 Effective stream area after confluence = 30.510 (Ac.)

++++++  
 Process from Point/Station 1.800 to Point/Station 1.900  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1463.000 (Ft.)  
 Downstream point/station elevation = 1457.000 (Ft.)  
 Pipe length = 221.00 (Ft.)    Manning's N = 0.013  
 No. of pipes = 1    Required pipe flow = 60.103 (CFS)  
 Nearest computed pipe diameter = 30.00 (In.)  
 Calculated individual pipe flow = 60.103 (CFS)  
 Normal flow depth in pipe = 22.03 (In.)  
 Flow top width inside pipe = 26.50 (In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 15.56 (Ft/s)  
 Travel time through pipe = 0.24 min.  
 Time of concentration (TC) = 11.81 min.

+++++

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Process from Point/Station 1.800 to Point/Station 1.900  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.818  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.700  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 61.70  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.81 min.  
 Rainfall intensity = 2.359(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.142(CFS) for 3.700(Ac.)  
 Total runoff = 67.245(CFS) Total area = 34.210(Ac.)

+++++  
 Process from Point/Station 1.900 to Point/Station 1.100  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1457.000(Ft.)  
 Downstream point/station elevation = 1448.000(Ft.)  
 Pipe length = 268.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 67.245(CFS)  
 Nearest computed pipe diameter = 30.00(In.)  
 Calculated individual pipe flow = 67.245(CFS)  
 Normal flow depth in pipe = 22.13(In.)  
 Flow top width inside pipe = 26.40(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 17.31(Ft/s)  
 Travel time through pipe = 0.26 min.  
 Time of concentration (TC) = 12.07 min.

+++++  
 Process from Point/Station 1.900 to Point/Station 1.100  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.832  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.400  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 67.40  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.07 min.  
 Rainfall intensity = 2.331(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.232(CFS) for 3.730(Ac.)  
 Total runoff = 74.477(CFS) Total area = 37.940(Ac.)

+++++  
 Process from Point/Station 1.100 to Point/Station 1.110  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1448.000(Ft.)  
 Downstream point/station elevation = 1442.000(Ft.)  
 Pipe length = 173.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 74.477(CFS)  
 Nearest computed pipe diameter = 30.00(In.)  
 Calculated individual pipe flow = 74.477(CFS)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Normal flow depth in pipe = 23.95(In.)  
 Flow top width inside pipe = 24.07(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 17.73(Ft/s)  
 Travel time through pipe = 0.16 min.  
 Time of concentration (TC) = 12.23 min.

++++++  
 Process from Point/Station 1.100 to Point/Station 1.110  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.842  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.23 min.  
 Rainfall intensity = 2.314(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.368(CFS) for 3.780(Ac.)  
 Total runoff = 81.846(CFS) Total area = 41.720(Ac.)

++++++  
 Process from Point/Station 1.100 to Point/Station 1.110  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.878  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.600  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 63.60  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 12.23 min.  
 Rainfall intensity = 2.314(In/Hr) for a 10.0 year storm  
 Subarea runoff = 1.503(CFS) for 0.740(Ac.)  
 Total runoff = 83.349(CFS) Total area = 42.460(Ac.)

++++++  
 Process from Point/Station 1.110 to Point/Station 1.120  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1442.000(Ft.)  
 Downstream point/station elevation = 1441.000(Ft.)  
 Pipe length = 71.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 83.349(CFS)  
 Nearest computed pipe diameter = 36.00(In.)  
 Calculated individual pipe flow = 83.349(CFS)  
 Normal flow depth in pipe = 31.59(In.)  
 Flow top width inside pipe = 23.60(In.)  
 Critical Depth = 33.60(In.)  
 Pipe flow velocity = 12.67(Ft/s)  
 Travel time through pipe = 0.09 min.  
 Time of concentration (TC) = 12.32 min.

+++++

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Process from Point/Station 1.110 to Point/Station 1.120  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.884  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 73.20  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 12.32 min.  
 Rainfall intensity = 2.304(In/Hr) for a 10.0 year storm  
 Subarea runoff = 6.969(CFS) for 3.420(Ac.)  
 Total runoff = 90.318(CFS) Total area = 45.880(Ac.)

+++++  
 Process from Point/Station 1.120 to Point/Station 1.130  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1441.000(Ft.)  
 Downstream point/station elevation = 1439.000(Ft.)  
 Pipe length = 199.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 90.318(CFS)  
 Nearest computed pipe diameter = 42.00(In.)  
 Calculated individual pipe flow = 90.318(CFS)  
 Normal flow depth in pipe = 31.03(In.)  
 Flow top width inside pipe = 36.90(In.)  
 Critical Depth = 35.37(In.)  
 Pipe flow velocity = 11.86(Ft/s)  
 Travel time through pipe = 0.28 min.  
 Time of concentration (TC) = 12.60 min.

+++++  
 Process from Point/Station 1.120 to Point/Station 1.130  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.829  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 66.90  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.60 min.  
 Rainfall intensity = 2.276(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.814(CFS) for 4.140(Ac.)  
 Total runoff = 98.132(CFS) Total area = 50.020(Ac.)

+++++  
 Process from Point/Station 1.130 to Point/Station 1.140  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1439.000(Ft.)  
 Downstream point/station elevation = 1438.000(Ft.)  
 Pipe length = 77.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 98.132(CFS)  
 Nearest computed pipe diameter = 39.00(In.)  
 Calculated individual pipe flow = 98.132(CFS)



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Normal flow depth in pipe = 33.75(In.)  
 Flow top width inside pipe = 26.62(In.)  
 Critical Depth = 36.04(In.)  
 Pipe flow velocity = 12.87(Ft/s)  
 Travel time through pipe = 0.10 min.  
 Time of concentration (TC) = 12.70 min.

+++++  
 Process from Point/Station 1.130 to Point/Station 1.140  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.825  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.500  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 65.50  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.70 min.  
 Rainfall intensity = 2.266(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.072(CFS) for 3.780(Ac.)  
 Total runoff = 105.204(CFS) Total area = 53.800(Ac.)

+++++  
 Process from Point/Station 1.140 to Point/Station 1.150  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1438.000(Ft.)  
 Downstream point/station elevation = 1423.000(Ft.)  
 Pipe length = 389.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 105.204(CFS)  
 Nearest computed pipe diameter = 33.00(In.)  
 Calculated individual pipe flow = 105.204(CFS)  
 Normal flow depth in pipe = 27.47(In.)  
 Flow top width inside pipe = 24.65(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 19.92(Ft/s)  
 Travel time through pipe = 0.33 min.  
 Time of concentration (TC) = 13.03 min.

+++++  
 Process from Point/Station 1.140 to Point/Station 1.150  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.820  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 86.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 13.03 min.  
 Rainfall intensity = 2.235(In/Hr) for a 10.0 year storm  
 Subarea runoff = 10.359(CFS) for 5.650(Ac.)  
 Total runoff = 115.563(CFS) Total area = 59.450(Ac.)

+++++

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Process from Point/Station 1.140 to Point/Station 1.150  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 59.450 (Ac.)  
 Runoff from this stream = 115.563 (CFS)  
 Time of concentration = 13.03 min.  
 Rainfall intensity = 2.235 (In/Hr)

\*\*\*\*\*  
 Process from Point/Station 1.200 to Point/Station 1.210  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

Initial area flow distance = 998.000 (Ft.)  
 Top (of initial area) elevation = 1486.000 (Ft.)  
 Bottom (of initial area) elevation = 1463.000 (Ft.)  
 Difference in elevation = 23.000 (Ft.)  
 Slope = 0.02305 s(percent) = 2.30  
 $TC = k(0.370) * [(length^3) / (elevation\ change)]^{0.2}$   
 Initial area time of concentration = 12.455 min.  
 Rainfall intensity = 2.291 (In/Hr) for a 10.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.842  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil (AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 4.803 (CFS)  
 Total initial stream area = 2.490 (Ac.)  
 Pervious area fraction = 0.350

\*\*\*\*\*  
 Process from Point/Station 1.210 to Point/Station 1.220  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

Upstream point/station elevation = 1457.000 (Ft.)  
 Downstream point/station elevation = 1452.000 (Ft.)  
 Pipe length = 360.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 4.803 (CFS)  
 Nearest computed pipe diameter = 15.00 (In.)  
 Calculated individual pipe flow = 4.803 (CFS)  
 Normal flow depth in pipe = 8.64 (In.)  
 Flow top width inside pipe = 14.82 (In.)  
 Critical Depth = 10.66 (In.)  
 Pipe flow velocity = 6.56 (Ft/s)  
 Travel time through pipe = 0.91 min.  
 Time of concentration (TC) = 13.37 min.

\*\*\*\*\*  
 Process from Point/Station 1.210 to Point/Station 1.220  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.847  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 13.37 min.  
 Rainfall intensity = 2.203(In/Hr) for a 10.0 year storm  
 Subarea runoff = 8.643(CFS) for 4.630(Ac.)  
 Total runoff = 13.445(CFS) Total area = 7.120(Ac.)

++++++  
 Process from Point/Station 1.220 to Point/Station 1.230  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1452.000(Ft.)  
 Downstream point/station elevation = 1451.000(Ft.)  
 Pipe length = 36.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 13.445(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 13.445(CFS)  
 Normal flow depth in pipe = 11.82(In.)  
 Flow top width inside pipe = 17.09(In.)  
 Critical Depth = 16.38(In.)  
 Pipe flow velocity = 10.92(Ft/s)  
 Travel time through pipe = 0.05 min.  
 Time of concentration (TC) = 13.42 min.

++++++  
 Process from Point/Station 1.220 to Point/Station 1.230  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.847  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 13.42 min.  
 Rainfall intensity = 2.199(In/Hr) for a 10.0 year storm  
 Subarea runoff = 8.119(CFS) for 4.360(Ac.)  
 Total runoff = 21.564(CFS) Total area = 11.480(Ac.)

++++++  
 Process from Point/Station 1.230 to Point/Station 1.240  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1451.000(Ft.)  
 Downstream point/station elevation = 1431.000(Ft.)  
 Pipe length = 286.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 21.564(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 21.564(CFS)  
 Normal flow depth in pipe = 11.92(In.)  
 Flow top width inside pipe = 17.03(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 17.37(Ft/s)  
 Travel time through pipe = 0.27 min.  
 Time of concentration (TC) = 13.70 min.

+++++

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Process from Point/Station 1.230 to Point/Station 1.240  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.839  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 13.70 min.  
 Rainfall intensity = 2.174(In/Hr) for a 10.0 year storm  
 Subarea runoff = 6.862(CFS) for 3.760(Ac.)  
 Total runoff = 28.426(CFS) Total area = 15.240(Ac.)

+++++  
 Process from Point/Station 1.230 to Point/Station 1.240  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.883  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 13.70 min.  
 Rainfall intensity = 2.174(In/Hr) for a 10.0 year storm  
 Subarea runoff = 1.631(CFS) for 0.850(Ac.)  
 Total runoff = 30.057(CFS) Total area = 16.090(Ac.)

+++++  
 Process from Point/Station 1.240 to Point/Station 1.250  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1431.000(Ft.)  
 Downstream point/station elevation = 1430.000(Ft.)  
 Pipe length = 74.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 30.057(CFS)  
 Nearest computed pipe diameter = 27.00(In.)  
 Calculated individual pipe flow = 30.057(CFS)  
 Normal flow depth in pipe = 18.87(In.)  
 Flow top width inside pipe = 24.77(In.)  
 Critical Depth = 22.78(In.)  
 Pipe flow velocity = 10.14(Ft/s)  
 Travel time through pipe = 0.12 min.  
 Time of concentration (TC) = 13.82 min.

+++++  
 Process from Point/Station 1.240 to Point/Station 1.250  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.883  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 13.82 min.  
 Rainfall intensity = 2.164(In/Hr) for a 10.0 year storm  
 Subarea runoff = 24.348(CFS) for 12.750(Ac.)  
 Total runoff = 54.405(CFS) Total area = 28.840(Ac.)

++++++  
 Process from Point/Station 1.240 to Point/Station 1.250  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.883  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 13.82 min.  
 Rainfall intensity = 2.164(In/Hr) for a 10.0 year storm  
 Subarea runoff = 4.679(CFS) for 2.450(Ac.)  
 Total runoff = 59.084(CFS) Total area = 31.290(Ac.)

++++++  
 Process from Point/Station 1.250 to Point/Station 1.150  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1430.000(Ft.)  
 Downstream point/station elevation = 1423.000(Ft.)  
 Pipe length = 407.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 59.084(CFS)  
 Nearest computed pipe diameter = 33.00(In.)  
 Calculated individual pipe flow = 59.084(CFS)  
 Normal flow depth in pipe = 23.41(In.)  
 Flow top width inside pipe = 29.96(In.)  
 Critical Depth = 29.73(In.)  
 Pipe flow velocity = 13.11(Ft/s)  
 Travel time through pipe = 0.52 min.  
 Time of concentration (TC) = 14.34 min.

++++++  
 Process from Point/Station 1.250 to Point/Station 1.150  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 31.290(Ac.)  
 Runoff from this stream = 59.084(CFS)  
 Time of concentration = 14.34 min.  
 Rainfall intensity = 2.120(In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	115.563	13.03	2.235
2	59.084	14.34	2.120

Largest stream flow has longer or shorter time of concentration  
 Qp = 115.563 + sum of

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

$Q_a$                        $T_b/T_a$   
 59.084 \*                  0.909 =                  53.687  
 $Q_p$  =                  169.250

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
                     115.563                  59.084

Area of streams before confluence:  
                     59.450                  31.290

Results of confluence:  
 Total flow rate =                  169.250 (CFS)  
 Time of concentration =                  13.028 min.  
 Effective stream area after confluence =                  90.740 (Ac.)

++++++  
 Process from Point/Station                  2.000 to Point/Station                  2.100  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance =                  825.000 (Ft.)  
 Top (of initial area) elevation =                  1497.000 (Ft.)  
 Bottom (of initial area) elevation =                  1478.000 (Ft.)  
 Difference in elevation =                  19.000 (Ft.)  
 Slope =                  0.02303 s(percent) =                  2.30  
 $TC = k(0.370) * [(length^3) / (elevation\ change)]^{0.2}$   
 Initial area time of concentration =                  11.543 min.  
 Rainfall intensity =                  2.389 (In/Hr) for a                  10.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.847  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) =                  73.20  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff =                  7.422 (CFS)  
 Total initial stream area =                  3.670 (Ac.)  
 Pervious area fraction = 0.350

++++++  
 Process from Point/Station                  2.100 to Point/Station                  2.200  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation =                  1472.000 (Ft.)  
 Downstream point/station elevation =                  1459.000 (Ft.)  
 Pipe length =                  306.00 (Ft.)                  Manning's N = 0.013  
 No. of pipes = 1                  Required pipe flow =                  7.422 (CFS)  
 Nearest computed pipe diameter =                  15.00 (In.)  
 Calculated individual pipe flow =                  7.422 (CFS)  
 Normal flow depth in pipe =                  8.00 (In.)  
 Flow top width inside pipe =                  14.97 (In.)  
 Critical Depth =                  13.02 (In.)  
 Pipe flow velocity =                  11.14 (Ft/s)  
 Travel time through pipe =                  0.46 min.  
 Time of concentration (TC) =                  12.00 min.

++++++  
 Process from Point/Station                  2.100 to Point/Station                  2.200  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Runoff Coefficient = 0.844  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 72.60  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.00 min.  
 Rainfall intensity = 2.338(In/Hr) for a 10.0 year storm  
 Subarea runoff = 6.356(CFS) for 3.220(Ac.)  
 Total runoff = 13.778(CFS) Total area = 6.890(Ac.)

++++++  
 Process from Point/Station 2.200 to Point/Station 2.300  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1459.000(Ft.)  
 Downstream point/station elevation = 1458.000(Ft.)  
 Pipe length = 58.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 13.778(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 13.778(CFS)  
 Normal flow depth in pipe = 14.74(In.)  
 Flow top width inside pipe = 13.86(In.)  
 Critical Depth = 16.50(In.)  
 Pipe flow velocity = 8.90(Ft/s)  
 Travel time through pipe = 0.11 min.  
 Time of concentration (TC) = 12.11 min.

++++++  
 Process from Point/Station 2.200 to Point/Station 2.300  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.843  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.11 min.  
 Rainfall intensity = 2.327(In/Hr) for a 10.0 year storm  
 Subarea runoff = 2.451(CFS) for 1.250(Ac.)  
 Total runoff = 16.229(CFS) Total area = 8.140(Ac.)

++++++  
 Process from Point/Station 2.300 to Point/Station 2.400  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1458.000(Ft.)  
 Downstream point/station elevation = 1453.000(Ft.)  
 Pipe length = 126.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 16.229(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 16.229(CFS)  
 Normal flow depth in pipe = 11.91(In.)  
 Flow top width inside pipe = 17.04(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 13.08(Ft/s)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Travel time through pipe = 0.16 min.  
 Time of concentration (TC) = 12.27 min.

+++++  
 Process from Point/Station 2.300 to Point/Station 2.400  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.846  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.800  
 RI index for soil(AMC 2) = 73.80  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.27 min.  
 Rainfall intensity = 2.310(In/Hr) for a 10.0 year storm  
 Subarea runoff = 6.980(CFS) for 3.570(Ac.)  
 Total runoff = 23.209(CFS) Total area = 11.710(Ac.)

+++++  
 Process from Point/Station 2.400 to Point/Station 2.500  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1453.000(Ft.)  
 Downstream point/station elevation = 1449.000(Ft.)  
 Pipe length = 335.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 23.209(CFS)  
 Nearest computed pipe diameter = 24.00(In.)  
 Calculated individual pipe flow = 23.209(CFS)  
 Normal flow depth in pipe = 18.47(In.)  
 Flow top width inside pipe = 20.21(In.)  
 Critical Depth = 20.55(In.)  
 Pipe flow velocity = 8.95(Ft/s)  
 Travel time through pipe = 0.62 min.  
 Time of concentration (TC) = 12.89 min.

+++++  
 Process from Point/Station 2.400 to Point/Station 2.500  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.881  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 69.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 12.89 min.  
 Rainfall intensity = 2.248(In/Hr) for a 10.0 year storm  
 Subarea runoff = 3.565(CFS) for 1.800(Ac.)  
 Total runoff = 26.774(CFS) Total area = 13.510(Ac.)

+++++  
 Process from Point/Station 2.500 to Point/Station 2.600  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1449.000(Ft.)



**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

Downstream point/station elevation = 1445.000(Ft.)  
Pipe length = 270.00(Ft.) Manning's N = 0.013  
No. of pipes = 1 Required pipe flow = 26.774(CFS)  
Nearest computed pipe diameter = 24.00(In.)  
Calculated individual pipe flow = 26.774(CFS)  
Normal flow depth in pipe = 19.10(In.)  
Flow top width inside pipe = 19.35(In.)  
Critical Depth = 21.64(In.)  
Pipe flow velocity = 9.99(Ft/s)  
Travel time through pipe = 0.45 min.  
Time of concentration (TC) = 13.34 min.

++++  
Process from Point/Station 2.500 to Point/Station 2.600  
\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.819  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 1.000  
Decimal fraction soil group D = 0.000  
RI index for soil(AMC 2) = 86.00  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Time of concentration = 13.34 min.  
Rainfall intensity = 2.206(In/Hr) for a 10.0 year storm  
Subarea runoff = 1.211(CFS) for 0.670(Ac.)  
Total runoff = 27.985(CFS) Total area = 14.180(Ac.)  
End of computations, total study area = 629.96 (Ac.)  
The following figures may  
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.710  
Area averaged RI index number = 78.7

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version 7.1  
Rational Hydrology Study                      Date: 11/03/21    File:kcpr100.out

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KELLER Crossing Project  
Hydrology Developed Condition  
100-year storm

-----

\*\*\*\*\*    Hydrology Study Control Information    \*\*\*\*\*

English (in-lb) Units used in input data file

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Program License Serial Number 4029

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Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.528(In.)  
100 year, 1 hour precipitation = 1.590(In.)

Storm event year = 100.0  
Calculated rainfall intensity data:  
1 hour intensity = 1.590(In/Hr)  
Slope of intensity duration curve = 0.5500

+++++  
Process from Point/Station                      20.000 to Point/Station                      21.000  
\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

-----

Initial area flow distance = 855.000(Ft.)  
Top (of initial area) elevation = 1597.000(Ft.)  
Bottom (of initial area) elevation = 1488.000(Ft.)  
Difference in elevation = 109.000(Ft.)  
Slope = 0.12749 s(percent)= 12.75  
TC = k(0.530)\*[(length^3)/(elevation change)]^0.2  
Initial area time of concentration = 11.912 min.  
Rainfall intensity = 3.869(In/Hr) for a 100.0 year storm  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.863  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 1.000  
RI index for soil(AMC 2) = 89.00  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Initial subarea runoff = 28.723(CFS)  
Total initial stream area = 8.600(Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Pervious area fraction = 1.000

+++++  
 Process from Point/Station            21.000 to Point/Station            22.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1488.000 (Ft.)  
 End of natural channel elevation = 1465.000 (Ft.)  
 Length of natural channel = 715.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 62.455 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
 Velocity using mean channel flow = 3.95 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
       Normal channel slope = 0.0322  
 Corrected/adjusted channel slope = 0.0322  
 Travel time = 3.01 min.            TC = 14.93 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.854  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.350  
 Decimal fraction soil group D = 0.650  
 RI index for soil(AMC 2) = 87.95  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 3.418 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 58.978 (CFS) for 20.200 (Ac.)  
 Total runoff = 87.701 (CFS)    Total area = 28.800 (Ac.)

+++++  
 Process from Point/Station            22.000 to Point/Station            23.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1465.000 (Ft.)  
 End of natural channel elevation = 1446.000 (Ft.)  
 Length of natural channel = 795.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 131.551 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
 Velocity using mean channel flow = 4.37 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
       Normal channel slope = 0.0239  
 Corrected/adjusted channel slope = 0.0239  
 Travel time = 3.03 min.            TC = 17.96 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Decimal fraction soil group B = 0.300  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 84.80  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 3.087(In/Hr) for a 100.0 year storm  
 Subarea runoff = 74.262(CFS) for 28.800(Ac.)  
 Total runoff = 161.963(CFS) Total area = 57.600(Ac.)

++++++  
 Process from Point/Station 40.000 to Point/Station 40.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 1.417(In/Hr) for a 100.0 year storm  
 APARTMENT subarea type  
 Runoff Coefficient = 0.853  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 72.60  
 Pervious area fraction = 0.200; Impervious fraction = 0.800  
 User specified values are as follows:  
 TC = 74.00 min. Rain intensity = 1.42(In/Hr)  
 Total area = 6.20(Ac.) Total runoff = 12.00(CFS)

++++++  
 Process from Point/Station 40.000 to Point/Station 41.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1460.000(Ft.)  
 Downstream point/station elevation = 1440.000(Ft.)  
 Pipe length = 200.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 12.000(CFS)  
 Nearest computed pipe diameter = 12.00(In.)  
 Calculated individual pipe flow = 12.000(CFS)  
 Normal flow depth in pipe = 10.80(In.)  
 Flow top width inside pipe = 7.20(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 16.13(Ft/s)  
 Travel time through pipe = 0.21 min.  
 Time of concentration (TC) = 74.21 min.

++++++  
 Process from Point/Station 40.000 to Point/Station 41.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.873  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 69.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 74.21 min.  
 Rainfall intensity = 1.415(In/Hr) for a 100.0 year storm  
 Subarea runoff = 2.199(CFS) for 1.780(Ac.)  
 Total runoff = 14.199(CFS) Total area = 7.980(Ac.)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

+++++  
 Process from Point/Station 50.000 to Point/Station 51.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 1000.000 (Ft.)  
 Top (of initial area) elevation = 1589.000 (Ft.)  
 Bottom (of initial area) elevation = 1496.000 (Ft.)  
 Difference in elevation = 93.000 (Ft.)  
 Slope = 0.09300 s(percent) = 9.30  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.508 min.  
 Rainfall intensity = 3.610 (In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.860  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.100  
 Decimal fraction soil group D = 0.900  
 RI index for soil(AMC 2) = 88.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 30.382 (CFS)  
 Total initial stream area = 9.790 (Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 51.000 to Point/Station 52.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1496.000 (Ft.)  
 End of natural channel elevation = 1478.000 (Ft.)  
 Length of natural channel = 593.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 54.744 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 $Velocity = 5.48(q^{.33})(slope^{.492})$   
 Velocity using mean channel flow = 3.68 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0304  
 Corrected/adjusted channel slope = 0.0304  
 Travel time = 2.69 min. TC = 16.19 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.854  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.250  
 Decimal fraction soil group D = 0.750  
 RI index for soil(AMC 2) = 88.25  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 3.268 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 43.792 (CFS) for 15.700 (Ac.)  
 Total runoff = 74.174 (CFS) Total area = 25.490 (Ac.)

+++++  
 Process from Point/Station 52.000 to Point/Station 53.000

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1478.000 (Ft.)  
End of natural channel elevation = 1469.000 (Ft.)  
Length of natural channel = 597.000 (Ft.)  
Estimated mean flow rate at midpoint of channel = 89.597 (CFS)

Natural mountain channel type used  
L.A. County flood control district formula for channel velocity:  
Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
Velocity using mean channel flow = 3.07 (Ft/s)

Correction to map slope used on extremely rugged channels with  
drops and waterfalls (Plate D-6.2)  
Normal channel slope = 0.0151  
Corrected/adjusted channel slope = 0.0151  
Travel time = 3.24 min. TC = 19.44 min.

Adding area flow to channel  
UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.848  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.300  
Decimal fraction soil group D = 0.700  
RI index for soil(AMC 2) = 88.10  
Pervious area fraction = 1.000; Impervious fraction = 0.000  
Rainfall intensity = 2.955 (In/Hr) for a 100.0 year storm  
Subarea runoff = 26.575 (CFS) for 10.600 (Ac.)  
Total runoff = 100.750 (CFS) Total area = 36.090 (Ac.)

+++++  
Process from Point/Station 53.000 to Point/Station 54.000  
\*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1469.000 (Ft.)  
Downstream point/station elevation = 1462.000 (Ft.)  
Pipe length = 680.00 (Ft.) Manning's N = 0.013  
No. of pipes = 1 Required pipe flow = 100.750 (CFS)  
Nearest computed pipe diameter = 42.00 (In.)  
Calculated individual pipe flow = 100.750 (CFS)  
Normal flow depth in pipe = 33.94 (In.)  
Flow top width inside pipe = 33.08 (In.)  
Critical Depth = 36.91 (In.)  
Pipe flow velocity = 12.10 (Ft/s)  
Travel time through pipe = 0.94 min.  
Time of concentration (TC) = 20.38 min.

+++++  
Process from Point/Station 53.000 to Point/Station 54.000  
\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
Runoff Coefficient = 0.844  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.500  
Decimal fraction soil group D = 0.500  
RI index for soil(AMC 2) = 87.50  
Pervious area fraction = 1.000; Impervious fraction = 0.000

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Time of concentration = 20.38 min.  
 Rainfall intensity = 2.880(In/Hr) for a 100.0 year storm  
 Subarea runoff = 4.692(CFS) for 1.930(Ac.)  
 Total runoff = 105.442(CFS) Total area = 38.020(Ac.)

+++++  
 Process from Point/Station 54.000 to Point/Station 55.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1462.000(Ft.)  
 Downstream point/station elevation = 1438.000(Ft.)  
 Pipe length = 689.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 105.442(CFS)  
 Nearest computed pipe diameter = 36.00(In.)  
 Calculated individual pipe flow = 105.442(CFS)  
 Normal flow depth in pipe = 25.43(In.)  
 Flow top width inside pipe = 32.79(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 19.76(Ft/s)  
 Travel time through pipe = 0.58 min.  
 Time of concentration (TC) = 20.96 min.

+++++  
 Process from Point/Station 55.000 to Point/Station 55.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 0.344(In/Hr) for a 100.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.711  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 User specified values are as follows:  
 TC = 970.20 min. Rain intensity = 0.34(In/Hr)  
 Total area = 59.90(Ac.) Total runoff = 16.38(CFS)

+++++  
 Process from Point/Station 55.000 to Point/Station 56.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1429.000(Ft.)  
 Downstream point/station elevation = 1426.000(Ft.)  
 Pipe length = 125.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 16.380(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 16.380(CFS)  
 Normal flow depth in pipe = 14.86(In.)  
 Flow top width inside pipe = 13.66(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 10.50(Ft/s)  
 Travel time through pipe = 0.20 min.  
 Time of concentration (TC) = 970.40 min.

+++++  
 Process from Point/Station 55.000 to Point/Station 56.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.849  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 970.40 min.  
 Rainfall intensity = 0.344(In/Hr) for a 100.0 year storm  
 Subarea runoff = 0.351(CFS) for 1.200(Ac.)  
 Total runoff = 16.731(CFS) Total area = 61.100(Ac.)

+++++  
 Process from Point/Station 57.000 to Point/Station 57.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 1.590(In/Hr) for a 100.0 year storm  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.789  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 User specified values are as follows:  
 TC = 60.00 min. Rain intensity = 1.59(In/Hr)  
 Total area = 14.22(Ac.) Total runoff = 10.66(CFS)

+++++  
 Process from Point/Station 57.000 to Point/Station 58.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1445.000(Ft.)  
 Downstream point/station elevation = 1430.000(Ft.)  
 Pipe length = 320.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 10.660(CFS)  
 Nearest computed pipe diameter = 15.00(In.)  
 Calculated individual pipe flow = 10.660(CFS)  
 Normal flow depth in pipe = 9.80(In.)  
 Flow top width inside pipe = 14.28(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 12.55(Ft/s)  
 Travel time through pipe = 0.43 min.  
 Time of concentration (TC) = 60.43 min.

+++++  
 Process from Point/Station 57.000 to Point/Station 58.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.875  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 69.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Time of concentration = 60.43 min.  
 Rainfall intensity = 1.584(In/Hr) for a 100.0 year storm  
 Subarea runoff = 1.733(CFS) for 1.250(Ac.)  
 Total runoff = 12.393(CFS) Total area = 15.470(Ac.)

+++++  
 Process from Point/Station 61.000 to Point/Station 62.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 710.000(Ft.)  
 Top (of initial area) elevation = 1432.000(Ft.)  
 Bottom (of initial area) elevation = 1414.000(Ft.)  
 Difference in elevation = 18.000(Ft.)  
 Slope = 0.02535 s(percent)= 2.54  
 $TC = k(0.480)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.834 min.  
 Rainfall intensity = 3.563(In/Hr) for a 100.0 year storm  
 SINGLE FAMILY (1 Acre Lot)  
 Runoff Coefficient = 0.811  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 72.60  
 Pervious area fraction = 0.800; Impervious fraction = 0.200  
 Initial subarea runoff = 18.898(CFS)  
 Total initial stream area = 6.540(Ac.)  
 Pervious area fraction = 0.800

+++++  
 Process from Point/Station 70.000 to Point/Station 71.000  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 927.000(Ft.)  
 Top (of initial area) elevation = 1608.000(Ft.)  
 Bottom (of initial area) elevation = 1520.000(Ft.)  
 Difference in elevation = 88.000(Ft.)  
 Slope = 0.09493 s(percent)= 9.49  
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 13.051 min.  
 Rainfall intensity = 3.679(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.861  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 27.956(CFS)  
 Total initial stream area = 8.820(Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 71.000 to Point/Station 72.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1520.000(Ft.)  
 End of natural channel elevation = 1481.000(Ft.)  
 Length of natural channel = 1360.000(Ft.)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Estimated mean flow rate at midpoint of channel = 48.716 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
 Velocity using mean channel flow = 3.44 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0287  
 Corrected/adjusted channel slope = 0.0287  
 Travel time = 6.59 min. TC = 19.64 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.844  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 87.20  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.939(In/Hr) for a 100.0 year storm  
 Subarea runoff = 32.488(CFS) for 13.100(Ac.)  
 Total runoff = 60.443(CFS) Total area = 21.920(Ac.)

+++++  
 Process from Point/Station 71.000 to Point/Station 72.000  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.848  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil(AMC 2) = 88.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 19.64 min.  
 Rainfall intensity = 2.939(In/Hr) for a 100.0 year storm  
 Subarea runoff = 84.991(CFS) for 34.100(Ac.)  
 Total runoff = 145.434(CFS) Total area = 56.020(Ac.)

+++++  
 Process from Point/Station 72.000 to Point/Station 73.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1481.000 (Ft.)  
 End of natural channel elevation = 1476.000 (Ft.)  
 Length of natural channel = 385.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 199.952 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity = 5.48(q<sup>.33</sup>)(slope<sup>.492</sup>)  
 Velocity using mean channel flow = 3.71 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0130

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Corrected/adjusted channel slope = 0.0130  
 Travel time = 1.73 min. TC = 21.36 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.840  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.700  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 86.90  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.806(In/Hr) for a 100.0 year storm  
 Subarea runoff = 98.971(CFS) for 42.000(Ac.)  
 Total runoff = 244.406(CFS) Total area = 98.020(Ac.)

+++++  
 Process from Point/Station 73.000 to Point/Station 74.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1476.000(Ft.)  
 End of natural channel elevation = 1461.000(Ft.)  
 Length of natural channel = 780.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 282.430(CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})$  (slope<sup>.492</sup>)  
 Velocity using mean channel flow = 5.05(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0192  
 Corrected/adjusted channel slope = 0.0192  
 Travel time = 2.57 min. TC = 23.94 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.835  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.800  
 Decimal fraction soil group D = 0.200  
 RI index for soil(AMC 2) = 86.60  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.636(In/Hr) for a 100.0 year storm  
 Subarea runoff = 67.097(CFS) for 30.500(Ac.)  
 Total runoff = 311.502(CFS) Total area = 128.520(Ac.)

+++++  
 Process from Point/Station 74.000 to Point/Station 75.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1461.000(Ft.)  
 End of natural channel elevation = 1449.000(Ft.)  
 Length of natural channel = 843.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 398.758(CFS)

Natural mountain channel type used

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 4.88 (Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0142  
 Corrected/adjusted channel slope = 0.0142  
 Travel time = 2.88 min. TC = 26.82 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.828  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.600  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 86.10  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.476(In/Hr) for a 100.0 year storm  
 Subarea runoff = 147.617(CFS) for 72.000(Ac.)  
 Total runoff = 459.119(CFS) Total area = 200.520(Ac.)

+++++  
 Process from Point/Station 75.000 to Point/Station 76.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1449.000 (Ft.)  
 End of natural channel elevation = 1439.000 (Ft.)  
 Length of natural channel = 483.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 472.170 (CFS)

Natural mountain channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity =  $5.48(q^{.33})(\text{slope}^{.492})$   
 Velocity using mean channel flow = 6.20 (Ft/s)

Correction to map slope used on extremely rugged channels with drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0207  
 Corrected/adjusted channel slope = 0.0207  
 Travel time = 1.30 min. TC = 28.11 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.830  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.100  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 86.70  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 2.413(In/Hr) for a 100.0 year storm  
 Subarea runoff = 22.818(CFS) for 11.400(Ac.)  
 Total runoff = 481.937(CFS) Total area = 211.920(Ac.)

+++++  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

---

Upstream point/station elevation = 1435.000 (Ft.)  
 Downstream point/station elevation = 1418.000 (Ft.)  
 Pipe length = 1255.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 481.937 (CFS)  
 Nearest computed pipe diameter = 72.00 (In.)  
 Calculated individual pipe flow = 481.937 (CFS)  
 Normal flow depth in pipe = 57.56 (In.)  
 Flow top width inside pipe = 57.66 (In.)  
 Critical Depth = 67.53 (In.)  
 Pipe flow velocity = 19.87 (Ft/s)  
 Travel time through pipe = 1.05 min.  
 Time of concentration (TC) = 29.17 min.

++++++  
 Process from Point/Station 76.000 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 211.920 (Ac.)  
 Runoff from this stream = 481.937 (CFS)  
 Time of concentration = 29.17 min.  
 Rainfall intensity = 2.364 (In/Hr)

++++++  
 Process from Point/Station 77.000 to Point/Station 77.000  
 \*\*\*\* USER DEFINED FLOW INFORMATION AT A POINT \*\*\*\*

---

Rainfall intensity = 1.406 (In/Hr) for a 100.0 year storm  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.770  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.200  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.600  
 RI index for soil (AMC 2) = 70.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 User specified values are as follows:  
 TC = 75.00 min. Rain intensity = 1.41 (In/Hr)  
 Total area = 91.50 (Ac.) Total runoff = 78.75 (CFS)

++++++  
 Process from Point/Station 77.000 to Point/Station 77.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 91.500 (Ac.)  
 Runoff from this stream = 78.750 (CFS)  
 Time of concentration = 75.00 min.  
 Rainfall intensity = 1.406 (In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	481.937	29.17	2.364
2	78.750	75.00	1.406

Largest stream flow has longer or shorter time of concentration  
 Qp = 481.937 + sum of

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

Qa                      Tb/Ta  
 78.750 \*              0.389 =              30.624  
 Qp =              512.562

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
     481.937              78.750  
 Area of streams before confluence:  
     211.920              91.500  
 Results of confluence:  
 Total flow rate =              512.562(CFS)  
 Time of concentration =              29.166 min.  
 Effective stream area after confluence =              303.420(Ac.)

+++++  
 Process from Point/Station              77.000 to Point/Station              78.000  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1418.000(Ft.)  
 Downstream point/station elevation = 1414.000(Ft.)  
 Pipe length = 615.00(Ft.)      Manning's N = 0.013  
 No. of pipes = 1      Required pipe flow = 512.562(CFS)  
 Nearest computed pipe diameter = 84.00(In.)  
 Calculated individual pipe flow = 512.562(CFS)  
 Normal flow depth in pipe = 68.44(In.)  
 Flow top width inside pipe = 65.27(In.)  
 Critical Depth = 70.81(In.)  
 Pipe flow velocity = 15.26(Ft/s)  
 Travel time through pipe = 0.67 min.  
 Time of concentration (TC) = 29.84 min.

+++++  
 Process from Point/Station              77.000 to Point/Station              78.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 303.420(Ac.)  
 Runoff from this stream = 512.562(CFS)  
 Time of concentration = 29.84 min.  
 Rainfall intensity = 2.335(In/Hr)

+++++  
 Process from Point/Station              78.100 to Point/Station              78.200  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 985.000(Ft.)  
 Top (of initial area) elevation = 1680.000(Ft.)  
 Bottom (of initial area) elevation = 1425.000(Ft.)  
 Difference in elevation = 255.000(Ft.)  
 Slope = 0.25888      s(percent)= 25.89  
 TC = k(0.530)\*[(length^3)/(elevation change)]^0.2  
 Initial area time of concentration = 10.940 min.  
 Rainfall intensity = 4.054(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.860  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 87.50

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 13.487 (CFS)  
 Total initial stream area = 3.870 (Ac.)  
 Pervious area fraction = 1.000

+++++  
 Process from Point/Station 78.200 to Point/Station 78.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 1425.000 (Ft.)  
 End of natural channel elevation = 1414.000 (Ft.)  
 Length of natural channel = 995.000 (Ft.)  
 Estimated mean flow rate at midpoint of channel = 26.626 (CFS)

Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity(ft/s) = (7 + 8(q(English Units)<sup>0.352</sup>)(slope<sup>0.5</sup>)  
 Velocity using mean channel flow = 3.41 (Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0111  
 Corrected/adjusted channel slope = 0.0111  
 Travel time = 4.87 min. TC = 15.81 min.

Adding area flow to channel  
 SINGLE FAMILY (1/2 Acre Lot)  
 Runoff Coefficient = 0.780  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.800  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 58.60  
 Pervious area fraction = 0.600; Impervious fraction = 0.400  
 Rainfall intensity = 3.311 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 19.484 (CFS) for 7.540 (Ac.)  
 Total runoff = 32.972 (CFS) Total area = 11.410 (Ac.)

+++++  
 Process from Point/Station 78.200 to Point/Station 78.000  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 11.410 (Ac.)  
 Runoff from this stream = 32.972 (CFS)  
 Time of concentration = 15.81 min.  
 Rainfall intensity = 3.311 (In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
------------	-----------------	----------	----------------------------

1	512.562	29.84	2.335
2	32.972	15.81	3.311

Largest stream flow has longer time of concentration  
 Qp = 512.562 + sum of  
       Qb       Ia/Ib  
       32.972 \* 0.705 = 23.249  
 Qp = 535.811

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
     512.562          32.972  
 Area of streams before confluence:  
     303.420          11.410  
 Results of confluence:  
 Total flow rate =      535.811(CFS)  
 Time of concentration =    29.838 min.  
 Effective stream area after confluence =      314.830(Ac.)

+++++  
 Process from Point/Station          78.000 to Point/Station          79.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation =    1414.000(Ft.)  
 End of natural channel elevation =    1407.000(Ft.)  
 Length of natural channel =      890.000(Ft.)  
 Estimated mean flow rate at midpoint of channel =      555.808(CFS)

Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity(ft/s) = (7 + 8(q(English Units)^.352)(slope^0.5)  
 Velocity using mean channel flow =    7.18(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
     Normal channel slope =    0.0079  
 Corrected/adjusted channel slope =    0.0079  
 Travel time =      2.06 min.          TC =      31.90 min.

Adding area flow to channel  
 SINGLE FAMILY (1/2 Acre Lot)  
 Runoff Coefficient = 0.747  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.700  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 59.90  
 Pervious area fraction = 0.600; Impervious fraction = 0.400  
 Rainfall intensity =      2.250(In/Hr) for a    100.0 year storm  
 Subarea runoff =      39.488(CFS) for      23.500(Ac.)  
 Total runoff =      575.299(CFS)      Total area =      338.330(Ac.)

+++++  
 Process from Point/Station          1.000 to Point/Station          1.100  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance =    412.000(Ft.)  
 Top (of initial area) elevation =    1501.000(Ft.)  
 Bottom (of initial area) elevation =    1493.000(Ft.)  
 Difference in elevation =      8.000(Ft.)  
 Slope =      0.01942 s(percent)=      1.94  
 TC = k(0.370)\*[(length^3)/(elevation change)]^0.2  
 Initial area time of concentration =    9.047 min.  
 Rainfall intensity =      4.501(In/Hr) for a    100.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.872  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 6.199(CFS)  
 Total initial stream area = 1.580(Ac.)  
 Pervious area fraction = 0.350

++++++  
 Process from Point/Station 1.100 to Point/Station 1.200  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1496.000(Ft.)  
 Downstream point/station elevation = 1483.000(Ft.)  
 Pipe length = 288.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 6.199(CFS)  
 Nearest computed pipe diameter = 12.00(In.)  
 Calculated individual pipe flow = 6.199(CFS)  
 Normal flow depth in pipe = 8.26(In.)  
 Flow top width inside pipe = 11.11(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 10.75(Ft/s)  
 Travel time through pipe = 0.45 min.  
 Time of concentration (TC) = 9.49 min.

++++++  
 Process from Point/Station 1.100 to Point/Station 1.200  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.871  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 9.49 min.  
 Rainfall intensity = 4.383(In/Hr) for a 100.0 year storm  
 Subarea runoff = 13.858(CFS) for 3.630(Ac.)  
 Total runoff = 20.057(CFS) Total area = 5.210(Ac.)

++++++  
 Process from Point/Station 1.200 to Point/Station 1.300  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1483.000(Ft.)  
 Downstream point/station elevation = 1478.000(Ft.)  
 Pipe length = 312.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 20.057(CFS)  
 Nearest computed pipe diameter = 21.00(In.)  
 Calculated individual pipe flow = 20.057(CFS)  
 Normal flow depth in pipe = 17.20(In.)  
 Flow top width inside pipe = 16.16(In.)  
 Critical Depth = 19.20(In.)  
 Pipe flow velocity = 9.51(Ft/s)  
 Travel time through pipe = 0.55 min.  
 Time of concentration (TC) = 10.04 min.

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

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+++++
Process from Point/Station      1.200 to Point/Station      1.300
**** SUBAREA FLOW ADDITION ****

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```

CONDOMINIUM subarea type
Runoff Coefficient = 0.870
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 75.00
Pervious area fraction = 0.350; Impervious fraction = 0.650
Time of concentration = 10.04 min.
Rainfall intensity = 4.250(In/Hr) for a 100.0 year storm
Subarea runoff = 12.686(CFS) for 3.430(Ac.)
Total runoff = 32.743(CFS) Total area = 8.640(Ac.)

```

```

+++++
Process from Point/Station      1.300 to Point/Station      1.400
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1478.000(Ft.)
Downstream point/station elevation = 1474.000(Ft.)
Pipe length = 379.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 32.743(CFS)
Nearest computed pipe diameter = 27.00(In.)
Calculated individual pipe flow = 32.743(CFS)
Normal flow depth in pipe = 22.92(In.)
Flow top width inside pipe = 19.34(In.)
Critical Depth = 23.56(In.)
Pipe flow velocity = 9.10(Ft/s)
Travel time through pipe = 0.69 min.
Time of concentration (TC) = 10.73 min.

```

```

+++++
Process from Point/Station      1.300 to Point/Station      1.400
**** SUBAREA FLOW ADDITION ****

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---

```

UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.865
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Time of concentration = 10.73 min.
Rainfall intensity = 4.097(In/Hr) for a 100.0 year storm
Subarea runoff = 0.851(CFS) for 0.240(Ac.)
Total runoff = 33.594(CFS) Total area = 8.880(Ac.)

```

```

+++++
Process from Point/Station      1.400 to Point/Station      1.500
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1474.000(Ft.)
Downstream point/station elevation = 1473.000(Ft.)
Pipe length = 116.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 33.594(CFS)
Nearest computed pipe diameter = 30.00(In.)

```

## Keller Crossing – Tr. 38163

### ATTACHMENT B – Rational Method, Proposed Condition

Calculated individual pipe flow = 33.594 (CFS)  
 Normal flow depth in pipe = 21.89 (In.)  
 Flow top width inside pipe = 26.65 (In.)  
 Critical Depth = 23.65 (In.)  
 Pipe flow velocity = 8.76 (Ft/s)  
 Travel time through pipe = 0.22 min.  
 Time of concentration (TC) = 10.96 min.

++++++  
 Process from Point/Station 1.400 to Point/Station 1.500  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.869  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 10.96 min.  
 Rainfall intensity = 4.051 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 16.368 (CFS) for 4.650 (Ac.)  
 Total runoff = 49.961 (CFS) Total area = 13.530 (Ac.)

++++++  
 Process from Point/Station 1.400 to Point/Station 1.500  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.869  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 10.96 min.  
 Rainfall intensity = 4.051 (In/Hr) for a 100.0 year storm  
 Subarea runoff = 11.897 (CFS) for 3.380 (Ac.)  
 Total runoff = 61.859 (CFS) Total area = 16.910 (Ac.)

++++++  
 Process from Point/Station 1.500 to Point/Station 1.600  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1473.000 (Ft.)  
 Downstream point/station elevation = 1472.500 (Ft.)  
 Pipe length = 40.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 61.859 (CFS)  
 Nearest computed pipe diameter = 33.00 (In.)  
 Calculated individual pipe flow = 61.859 (CFS)  
 Normal flow depth in pipe = 28.69 (In.)  
 Flow top width inside pipe = 22.25 (In.)  
 Critical Depth = 30.14 (In.)  
 Pipe flow velocity = 11.29 (Ft/s)  
 Travel time through pipe = 0.06 min.  
 Time of concentration (TC) = 11.01 min.

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

+++++  
 Process from Point/Station            1.500 to Point/Station            1.600  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.865  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 89.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 11.01 min.  
 Rainfall intensity = 4.039(In/Hr) for a 100.0 year storm  
 Subarea runoff = 6.811(CFS) for 1.950(Ac.)  
 Total runoff = 68.670(CFS)    Total area = 18.860(Ac.)

+++++  
 Process from Point/Station            1.600 to Point/Station            1.700  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1472.500(Ft.)  
 Downstream point/station elevation = 1465.000(Ft.)  
 Pipe length = 230.00(Ft.)    Manning's N = 0.013  
 No. of pipes = 1    Required pipe flow = 68.670(CFS)  
 Nearest computed pipe diameter = 30.00(In.)  
 Calculated individual pipe flow = 68.670(CFS)  
 Normal flow depth in pipe = 22.83(In.)  
 Flow top width inside pipe = 25.59(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 17.13(Ft/s)  
 Travel time through pipe = 0.22 min.  
 Time of concentration (TC) = 11.24 min.

+++++  
 Process from Point/Station            1.600 to Point/Station            1.700  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.856  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.400  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 67.40  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.24 min.  
 Rainfall intensity = 3.995(In/Hr) for a 100.0 year storm  
 Subarea runoff = 12.895(CFS) for 3.770(Ac.)  
 Total runoff = 81.564(CFS)    Total area = 22.630(Ac.)

+++++  
 Process from Point/Station            1.700 to Point/Station            1.800  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1465.000(Ft.)  
 Downstream point/station elevation = 1463.000(Ft.)  
 Pipe length = 65.00(Ft.)    Manning's N = 0.013  
 No. of pipes = 1    Required pipe flow = 81.564(CFS)  
 Nearest computed pipe diameter = 33.00(In.)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Calculated individual pipe flow = 81.564 (CFS)  
 Normal flow depth in pipe = 24.00 (In.)  
 Flow top width inside pipe = 29.39 (In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 17.62 (Ft/s)  
 Travel time through pipe = 0.06 min.  
 Time of concentration (TC) = 11.30 min.

+++++  
 Process from Point/Station 1.700 to Point/Station 1.800  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 22.630 (Ac.)  
 Runoff from this stream = 81.564 (CFS)  
 Time of concentration = 11.30 min.  
 Rainfall intensity = 3.983 (In/Hr)

+++++  
 Process from Point/Station 1.810 to Point/Station 1.820  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 998.000 (Ft.)  
 Top (of initial area) elevation = 1492.000 (Ft.)  
 Bottom (of initial area) elevation = 1472.000 (Ft.)  
 Difference in elevation = 20.000 (Ft.)  
 Slope = 0.02004 s(percent) = 2.00  
 $TC = k(0.370) * [(length^3) / (elevation\ change)]^{0.2}$   
 Initial area time of concentration = 12.808 min.  
 Rainfall intensity = 3.718 (In/Hr) for a 100.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.866  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil (AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 9.147 (CFS)  
 Total initial stream area = 2.840 (Ac.)  
 Pervious area fraction = 0.350

+++++  
 Process from Point/Station 1.820 to Point/Station 1.830  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1467.000 (Ft.)  
 Downstream point/station elevation = 1466.000 (Ft.)  
 Pipe length = 35.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 9.147 (CFS)  
 Nearest computed pipe diameter = 15.00 (In.)  
 Calculated individual pipe flow = 9.147 (CFS)  
 Normal flow depth in pipe = 10.50 (In.)  
 Flow top width inside pipe = 13.75 (In.)  
 Critical Depth = 13.92 (In.)  
 Pipe flow velocity = 9.96 (Ft/s)  
 Travel time through pipe = 0.06 min.  
 Time of concentration (TC) = 12.87 min.

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

```

+++++
Process from Point/Station      1.820 to Point/Station      1.830
**** SUBAREA FLOW ADDITION ****

```

---

```

CONDOMINIUM subarea type
Runoff Coefficient = 0.866
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 75.00
Pervious area fraction = 0.350; Impervious fraction = 0.650
Time of concentration = 12.87 min.
Rainfall intensity = 3.708(In/Hr) for a 100.0 year storm
Subarea runoff = 8.224(CFS) for 2.560(Ac.)
Total runoff = 17.371(CFS) Total area = 5.400(Ac.)

```

```

+++++
Process from Point/Station      1.830 to Point/Station      1.840
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1466.000(Ft.)
Downstream point/station elevation = 1464.000(Ft.)
Pipe length = 325.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 17.371(CFS)
Nearest computed pipe diameter = 24.00(In.)
Calculated individual pipe flow = 17.371(CFS)
Normal flow depth in pipe = 19.22(In.)
Flow top width inside pipe = 19.17(In.)
Critical Depth = 18.02(In.)
Pipe flow velocity = 6.44(Ft/s)
Travel time through pipe = 0.84 min.
Time of concentration (TC) = 13.71 min.

```

```

+++++
Process from Point/Station      1.830 to Point/Station      1.840
**** SUBAREA FLOW ADDITION ****

```

---

```

CONDOMINIUM subarea type
Runoff Coefficient = 0.848
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2) = 65.50
Pervious area fraction = 0.350; Impervious fraction = 0.650
Time of concentration = 13.71 min.
Rainfall intensity = 3.581(In/Hr) for a 100.0 year storm
Subarea runoff = 7.535(CFS) for 2.480(Ac.)
Total runoff = 24.906(CFS) Total area = 7.880(Ac.)

```

```

+++++
Process from Point/Station      1.840 to Point/Station      1.800
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

---

```

Upstream point/station elevation = 1464.000(Ft.)
Downstream point/station elevation = 1463.000(Ft.)
Pipe length = 135.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 24.906(CFS)
Nearest computed pipe diameter = 27.00(In.)

```

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Calculated individual pipe flow = 24.906 (CFS)  
 Normal flow depth in pipe = 20.67 (In.)  
 Flow top width inside pipe = 22.87 (In.)  
 Critical Depth = 20.95 (In.)  
 Pipe flow velocity = 7.62 (Ft/s)  
 Travel time through pipe = 0.30 min.  
 Time of concentration (TC) = 14.00 min.

++++++  
 Process from Point/Station 1.840 to Point/Station 1.800  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 7.880 (Ac.)  
 Runoff from this stream = 24.906 (CFS)  
 Time of concentration = 14.00 min.  
 Rainfall intensity = 3.540 (In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	81.564	11.30	3.983
2	24.906	14.00	3.540

Largest stream flow has longer or shorter time of concentration  
 $Q_p = 81.564 + \text{sum of } \frac{Q_a \cdot T_b}{T_a}$   
 $24.906 * 0.807 = 20.098$   
 $Q_p = 101.663$

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
 81.564 24.906  
 Area of streams before confluence:  
 22.630 7.880  
 Results of confluence:  
 Total flow rate = 101.663 (CFS)  
 Time of concentration = 11.300 min.  
 Effective stream area after confluence = 30.510 (Ac.)

++++++  
 Process from Point/Station 1.800 to Point/Station 1.900  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1463.000 (Ft.)  
 Downstream point/station elevation = 1457.000 (Ft.)  
 Pipe length = 221.00 (Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 101.663 (CFS)  
 Nearest computed pipe diameter = 36.00 (In.)  
 Calculated individual pipe flow = 101.663 (CFS)  
 Normal flow depth in pipe = 27.33 (In.)  
 Flow top width inside pipe = 30.79 (In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 17.65 (Ft/s)  
 Travel time through pipe = 0.21 min.  
 Time of concentration (TC) = 11.51 min.

++++++  
 Process from Point/Station 1.800 to Point/Station 1.900

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.845  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.700  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.300  
 RI index for soil(AMC 2) = 61.70  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.51 min.  
 Rainfall intensity = 3.943(In/Hr) for a 100.0 year storm  
 Subarea runoff = 12.333(CFS) for 3.700(Ac.)  
 Total runoff = 113.995(CFS) Total area = 34.210(Ac.)

+++++  
 Process from Point/Station 1.900 to Point/Station 1.100  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1457.000(Ft.)  
 Downstream point/station elevation = 1448.000(Ft.)  
 Pipe length = 268.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 113.995(CFS)  
 Nearest computed pipe diameter = 36.00(In.)  
 Calculated individual pipe flow = 113.995(CFS)  
 Normal flow depth in pipe = 27.56(In.)  
 Flow top width inside pipe = 30.50(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 19.65(Ft/s)  
 Travel time through pipe = 0.23 min.  
 Time of concentration (TC) = 11.74 min.

+++++  
 Process from Point/Station 1.900 to Point/Station 1.100  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.855  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.400  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 67.40  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.74 min.  
 Rainfall intensity = 3.901(In/Hr) for a 100.0 year storm  
 Subarea runoff = 12.445(CFS) for 3.730(Ac.)  
 Total runoff = 126.440(CFS) Total area = 37.940(Ac.)

+++++  
 Process from Point/Station 1.100 to Point/Station 1.110  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1448.000(Ft.)  
 Downstream point/station elevation = 1442.000(Ft.)  
 Pipe length = 173.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 126.440(CFS)  
 Nearest computed pipe diameter = 36.00(In.)  
 Calculated individual pipe flow = 126.440(CFS)  
 Normal flow depth in pipe = 30.09(In.)



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## ATTACHMENT B – Rational Method, Proposed Condition

Flow top width inside pipe = 26.66(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 20.02(Ft/s)  
 Travel time through pipe = 0.14 min.  
 Time of concentration (TC) = 11.88 min.

++++  
 Process from Point/Station 1.100 to Point/Station 1.110  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.863  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.88 min.  
 Rainfall intensity = 3.875(In/Hr) for a 100.0 year storm  
 Subarea runoff = 12.637(CFS) for 3.780(Ac.)  
 Total runoff = 139.077(CFS) Total area = 41.720(Ac.)

++++  
 Process from Point/Station 1.100 to Point/Station 1.110  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.885  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.600  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.400  
 RI index for soil(AMC 2) = 63.60  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 11.88 min.  
 Rainfall intensity = 3.875(In/Hr) for a 100.0 year storm  
 Subarea runoff = 2.538(CFS) for 0.740(Ac.)  
 Total runoff = 141.615(CFS) Total area = 42.460(Ac.)

++++  
 Process from Point/Station 1.110 to Point/Station 1.120  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1442.000(Ft.)  
 Downstream point/station elevation = 1441.000(Ft.)  
 Pipe length = 71.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 141.615(CFS)  
 Nearest computed pipe diameter = 45.00(In.)  
 Calculated individual pipe flow = 141.615(CFS)  
 Normal flow depth in pipe = 36.38(In.)  
 Flow top width inside pipe = 35.43(In.)  
 Critical Depth = 41.70(In.)  
 Pipe flow velocity = 14.81(Ft/s)  
 Travel time through pipe = 0.08 min.  
 Time of concentration (TC) = 11.96 min.

++++  
 Process from Point/Station 1.110 to Point/Station 1.120

**Keller Crossing – Tr. 38163**  
**ATTACHMENT B – Rational Method, Proposed Condition**

\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
Runoff Coefficient = 0.890  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.000  
Decimal fraction soil group C = 0.300  
Decimal fraction soil group D = 0.700  
RI index for soil(AMC 2) = 73.20  
Pervious area fraction = 0.100; Impervious fraction = 0.900  
Time of concentration = 11.96 min.  
Rainfall intensity = 3.860(In/Hr) for a 100.0 year storm  
Subarea runoff = 11.749(CFS) for 3.420(Ac.)  
Total runoff = 153.364(CFS) Total area = 45.880(Ac.)

+++++  
Process from Point/Station 1.120 to Point/Station 1.130  
\*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1441.000(Ft.)  
Downstream point/station elevation = 1439.000(Ft.)  
Pipe length = 199.00(Ft.) Manning's N = 0.013  
No. of pipes = 1 Required pipe flow = 153.364(CFS)  
Nearest computed pipe diameter = 48.00(In.)  
Calculated individual pipe flow = 153.364(CFS)  
Normal flow depth in pipe = 43.20(In.)  
Flow top width inside pipe = 28.80(In.)  
Critical Depth = 43.46(In.)  
Pipe flow velocity = 12.88(Ft/s)  
Travel time through pipe = 0.26 min.  
Time of concentration (TC) = 12.22 min.

+++++  
Process from Point/Station 1.120 to Point/Station 1.130  
\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
Runoff Coefficient = 0.854  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 0.300  
Decimal fraction soil group C = 0.400  
Decimal fraction soil group D = 0.300  
RI index for soil(AMC 2) = 66.90  
Pervious area fraction = 0.350; Impervious fraction = 0.650  
Time of concentration = 12.22 min.  
Rainfall intensity = 3.815(In/Hr) for a 100.0 year storm  
Subarea runoff = 13.483(CFS) for 4.140(Ac.)  
Total runoff = 166.847(CFS) Total area = 50.020(Ac.)

+++++  
Process from Point/Station 1.130 to Point/Station 1.140  
\*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1439.000(Ft.)  
Downstream point/station elevation = 1438.000(Ft.)  
Pipe length = 77.00(Ft.) Manning's N = 0.013  
No. of pipes = 1 Required pipe flow = 166.847(CFS)  
Nearest computed pipe diameter = 48.00(In.)  
Calculated individual pipe flow = 166.847(CFS)  
Normal flow depth in pipe = 40.22(In.)

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Flow top width inside pipe = 35.38(In.)  
 Critical Depth = 44.51(In.)  
 Pipe flow velocity = 14.84(Ft/s)  
 Travel time through pipe = 0.09 min.  
 Time of concentration (TC) = 12.30 min.

+++++  
 Process from Point/Station 1.130 to Point/Station 1.140  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.851  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.500  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 65.50  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.30 min.  
 Rainfall intensity = 3.801(In/Hr) for a 100.0 year storm  
 Subarea runoff = 12.224(CFS) for 3.780(Ac.)  
 Total runoff = 179.071(CFS) Total area = 53.800(Ac.)

+++++  
 Process from Point/Station 1.140 to Point/Station 1.150  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1438.000(Ft.)  
 Downstream point/station elevation = 1423.000(Ft.)  
 Pipe length = 389.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 179.071(CFS)  
 Nearest computed pipe diameter = 42.00(In.)  
 Calculated individual pipe flow = 179.071(CFS)  
 Normal flow depth in pipe = 31.31(In.)  
 Flow top width inside pipe = 36.59(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 23.26(Ft/s)  
 Travel time through pipe = 0.28 min.  
 Time of concentration (TC) = 12.58 min.

+++++  
 Process from Point/Station 1.140 to Point/Station 1.150  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.851  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 86.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 12.58 min.  
 Rainfall intensity = 3.754(In/Hr) for a 100.0 year storm  
 Subarea runoff = 18.046(CFS) for 5.650(Ac.)  
 Total runoff = 197.118(CFS) Total area = 59.450(Ac.)

+++++  
 Process from Point/Station 1.140 to Point/Station 1.150

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

\*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 1  
 Stream flow area = 59.450(Ac.)  
 Runoff from this stream = 197.118(CFS)  
 Time of concentration = 12.58 min.  
 Rainfall intensity = 3.754(In/Hr)

+++++  
 Process from Point/Station 1.200 to Point/Station 1.210  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 998.000(Ft.)  
 Top (of initial area) elevation = 1486.000(Ft.)  
 Bottom (of initial area) elevation = 1463.000(Ft.)  
 Difference in elevation = 23.000(Ft.)  
 Slope = 0.02305 s(percent)= 2.30  
 $TC = k(0.370)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 12.455 min.  
 Rainfall intensity = 3.775(In/Hr) for a 100.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.862  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 8.103(CFS)  
 Total initial stream area = 2.490(Ac.)  
 Pervious area fraction = 0.350

+++++  
 Process from Point/Station 1.210 to Point/Station 1.220  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1457.000(Ft.)  
 Downstream point/station elevation = 1452.000(Ft.)  
 Pipe length = 360.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 8.103(CFS)  
 Nearest computed pipe diameter = 18.00(In.)  
 Calculated individual pipe flow = 8.103(CFS)  
 Normal flow depth in pipe = 10.62(In.)  
 Flow top width inside pipe = 17.71(In.)  
 Critical Depth = 13.23(In.)  
 Pipe flow velocity = 7.47(Ft/s)  
 Travel time through pipe = 0.80 min.  
 Time of concentration (TC) = 13.26 min.

+++++  
 Process from Point/Station 1.210 to Point/Station 1.220  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.866  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 13.26 min.  
 Rainfall intensity = 3.648(In/Hr) for a 100.0 year storm  
 Subarea runoff = 14.622(CFS) for 4.630(Ac.)  
 Total runoff = 22.725(CFS) Total area = 7.120(Ac.)

+++++  
 Process from Point/Station 1.220 to Point/Station 1.230  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1452.000(Ft.)  
 Downstream point/station elevation = 1451.000(Ft.)  
 Pipe length = 36.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 22.725(CFS)  
 Nearest computed pipe diameter = 21.00(In.)  
 Calculated individual pipe flow = 22.725(CFS)  
 Normal flow depth in pipe = 15.02(In.)  
 Flow top width inside pipe = 18.95(In.)  
 Critical Depth = 19.80(In.)  
 Pipe flow velocity = 12.35(Ft/s)  
 Travel time through pipe = 0.05 min.  
 Time of concentration (TC) = 13.31 min.

+++++  
 Process from Point/Station 1.220 to Point/Station 1.230  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.866  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 1.000  
 RI index for soil(AMC 2) = 75.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 13.31 min.  
 Rainfall intensity = 3.640(In/Hr) for a 100.0 year storm  
 Subarea runoff = 13.741(CFS) for 4.360(Ac.)  
 Total runoff = 36.466(CFS) Total area = 11.480(Ac.)

+++++  
 Process from Point/Station 1.230 to Point/Station 1.240  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1451.000(Ft.)  
 Downstream point/station elevation = 1431.000(Ft.)  
 Pipe length = 286.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 36.466(CFS)  
 Nearest computed pipe diameter = 21.00(In.)  
 Calculated individual pipe flow = 36.466(CFS)  
 Normal flow depth in pipe = 15.14(In.)  
 Flow top width inside pipe = 18.84(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 19.62(Ft/s)  
 Travel time through pipe = 0.24 min.  
 Time of concentration (TC) = 13.55 min.

+++++  
 Process from Point/Station 1.230 to Point/Station 1.240

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

\*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.860  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 13.55 min.  
 Rainfall intensity = 3.604(In/Hr) for a 100.0 year storm  
 Subarea runoff = 11.660(CFS) for 3.760(Ac.)  
 Total runoff = 48.126(CFS) Total area = 15.240(Ac.)

++++++  
 Process from Point/Station 1.230 to Point/Station 1.240  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.889  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 13.55 min.  
 Rainfall intensity = 3.604(In/Hr) for a 100.0 year storm  
 Subarea runoff = 2.723(CFS) for 0.850(Ac.)  
 Total runoff = 50.848(CFS) Total area = 16.090(Ac.)

++++++  
 Process from Point/Station 1.240 to Point/Station 1.250  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1431.000(Ft.)  
 Downstream point/station elevation = 1430.000(Ft.)  
 Pipe length = 74.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 50.848(CFS)  
 Nearest computed pipe diameter = 30.00(In.)  
 Calculated individual pipe flow = 50.848(CFS)  
 Normal flow depth in pipe = 27.00(In.)  
 Flow top width inside pipe = 18.00(In.)  
 Critical Depth = 27.73(In.)  
 Pipe flow velocity = 10.92(Ft/s)  
 Travel time through pipe = 0.11 min.  
 Time of concentration (TC) = 13.66 min.

++++++  
 Process from Point/Station 1.240 to Point/Station 1.250  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.889  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 13.66 min.  
 Rainfall intensity = 3.588(In/Hr) for a 100.0 year storm  
 Subarea runoff = 40.651(CFS) for 12.750(Ac.)  
 Total runoff = 91.499(CFS) Total area = 28.840(Ac.)

+++++  
 Process from Point/Station 1.240 to Point/Station 1.250  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.889  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 13.66 min.  
 Rainfall intensity = 3.588(In/Hr) for a 100.0 year storm  
 Subarea runoff = 7.811(CFS) for 2.450(Ac.)  
 Total runoff = 99.311(CFS) Total area = 31.290(Ac.)

+++++  
 Process from Point/Station 1.250 to Point/Station 1.150  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1430.000(Ft.)  
 Downstream point/station elevation = 1423.000(Ft.)  
 Pipe length = 407.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 99.311(CFS)  
 Nearest computed pipe diameter = 39.00(In.)  
 Calculated individual pipe flow = 99.311(CFS)  
 Normal flow depth in pipe = 29.39(In.)  
 Flow top width inside pipe = 33.61(In.)  
 Critical Depth = 36.17(In.)  
 Pipe flow velocity = 14.80(Ft/s)  
 Travel time through pipe = 0.46 min.  
 Time of concentration (TC) = 14.12 min.

+++++  
 Process from Point/Station 1.250 to Point/Station 1.150  
 \*\*\*\* CONFLUENCE OF MINOR STREAMS \*\*\*\*

---

Along Main Stream number: 1 in normal stream number 2  
 Stream flow area = 31.290(Ac.)  
 Runoff from this stream = 99.311(CFS)  
 Time of concentration = 14.12 min.  
 Rainfall intensity = 3.523(In/Hr)  
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	197.118	12.58	3.754
2	99.311	14.12	3.523

Largest stream flow has longer or shorter time of concentration  
 $Q_p = 197.118 + \text{sum of } \frac{Q_a T_b}{T_a}$

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

$99.311 * 0.891 = 88.492$   
 $Q_p = 285.610$

Total of 2 streams to confluence:  
 Flow rates before confluence point:  
     197.118      99.311  
 Area of streams before confluence:  
     59.450      31.290

Results of confluence:  
 Total flow rate = 285.610 (CFS)  
 Time of concentration = 12.582 min.  
 Effective stream area after confluence = 90.740 (Ac.)

++++++  
 Process from Point/Station      2.000 to Point/Station      2.100  
 \*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

---

Initial area flow distance = 825.000 (Ft.)  
 Top (of initial area) elevation = 1497.000 (Ft.)  
 Bottom (of initial area) elevation = 1478.000 (Ft.)  
 Difference in elevation = 19.000 (Ft.)  
 Slope = 0.02303 s(percent) = 2.30  
 $TC = k(0.370) * [(length^3) / (elevation\ change)]^{0.2}$   
 Initial area time of concentration = 11.543 min.  
 Rainfall intensity = 3.936 (In/Hr) for a 100.0 year storm  
 CONDOMINIUM subarea type  
 Runoff Coefficient = 0.865  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.300  
 Decimal fraction soil group D = 0.700  
 RI index for soil (AMC 2) = 73.20  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Initial subarea runoff = 12.500 (CFS)  
 Total initial stream area = 3.670 (Ac.)  
 Pervious area fraction = 0.350

++++++  
 Process from Point/Station      2.100 to Point/Station      2.200  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1472.000 (Ft.)  
 Downstream point/station elevation = 1459.000 (Ft.)  
 Pipe length = 306.00 (Ft.)      Manning's N = 0.013  
 No. of pipes = 1      Required pipe flow = 12.500 (CFS)  
 Nearest computed pipe diameter = 15.00 (In.)  
 Calculated individual pipe flow = 12.500 (CFS)  
 Normal flow depth in pipe = 11.54 (In.)  
 Flow top width inside pipe = 12.63 (In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 12.33 (Ft/s)  
 Travel time through pipe = 0.41 min.  
 Time of concentration (TC) = 11.96 min.

++++++  
 Process from Point/Station      2.100 to Point/Station      2.200  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.864



# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.400  
 Decimal fraction soil group D = 0.600  
 RI index for soil(AMC 2) = 72.60  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 11.96 min.  
 Rainfall intensity = 3.861(In/Hr) for a 100.0 year storm  
 Subarea runoff = 10.738(CFS) for 3.220(Ac.)  
 Total runoff = 23.237(CFS) Total area = 6.890(Ac.)

++++++  
 Process from Point/Station 2.200 to Point/Station 2.300  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1459.000(Ft.)  
 Downstream point/station elevation = 1458.000(Ft.)  
 Pipe length = 58.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 23.237(CFS)  
 Nearest computed pipe diameter = 24.00(In.)  
 Calculated individual pipe flow = 23.237(CFS)  
 Normal flow depth in pipe = 15.98(In.)  
 Flow top width inside pipe = 22.64(In.)  
 Critical Depth = 20.57(In.)  
 Pipe flow velocity = 10.46(Ft/s)  
 Travel time through pipe = 0.09 min.  
 Time of concentration (TC) = 12.05 min.

++++++  
 Process from Point/Station 2.200 to Point/Station 2.300  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.863  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.500  
 Decimal fraction soil group D = 0.500  
 RI index for soil(AMC 2) = 72.00  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.05 min.  
 Rainfall intensity = 3.845(In/Hr) for a 100.0 year storm  
 Subarea runoff = 4.145(CFS) for 1.250(Ac.)  
 Total runoff = 27.383(CFS) Total area = 8.140(Ac.)

++++++  
 Process from Point/Station 2.300 to Point/Station 2.400  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1458.000(Ft.)  
 Downstream point/station elevation = 1453.000(Ft.)  
 Pipe length = 126.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 27.383(CFS)  
 Nearest computed pipe diameter = 21.00(In.)  
 Calculated individual pipe flow = 27.383(CFS)  
 Normal flow depth in pipe = 15.12(In.)  
 Flow top width inside pipe = 18.86(In.)  
 Critical depth could not be calculated.  
 Pipe flow velocity = 14.78(Ft/s)  
 Travel time through pipe = 0.14 min.

# Keller Crossing – Tr. 38163

## ATTACHMENT B – Rational Method, Proposed Condition

Time of concentration (TC) = 12.19 min.

+++++  
 Process from Point/Station 2.300 to Point/Station 2.400  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

CONDOMINIUM subarea type  
 Runoff Coefficient = 0.865  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 0.200  
 Decimal fraction soil group D = 0.800  
 RI index for soil(AMC 2) = 73.80  
 Pervious area fraction = 0.350; Impervious fraction = 0.650  
 Time of concentration = 12.19 min.  
 Rainfall intensity = 3.820(In/Hr) for a 100.0 year storm  
 Subarea runoff = 11.800(CFS) for 3.570(Ac.)  
 Total runoff = 39.183(CFS) Total area = 11.710(Ac.)

+++++  
 Process from Point/Station 2.400 to Point/Station 2.500  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1453.000(Ft.)  
 Downstream point/station elevation = 1449.000(Ft.)  
 Pipe length = 335.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 39.183(CFS)  
 Nearest computed pipe diameter = 30.00(In.)  
 Calculated individual pipe flow = 39.183(CFS)  
 Normal flow depth in pipe = 21.73(In.)  
 Flow top width inside pipe = 26.81(In.)  
 Critical Depth = 25.34(In.)  
 Pipe flow velocity = 10.29(Ft/s)  
 Travel time through pipe = 0.54 min.  
 Time of concentration (TC) = 12.73 min.

+++++  
 Process from Point/Station 2.400 to Point/Station 2.500  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

COMMERCIAL subarea type  
 Runoff Coefficient = 0.888  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 69.00  
 Pervious area fraction = 0.100; Impervious fraction = 0.900  
 Time of concentration = 12.73 min.  
 Rainfall intensity = 3.730(In/Hr) for a 100.0 year storm  
 Subarea runoff = 5.958(CFS) for 1.800(Ac.)  
 Total runoff = 45.141(CFS) Total area = 13.510(Ac.)

+++++  
 Process from Point/Station 2.500 to Point/Station 2.600  
 \*\*\*\* PIPEFLOW TRAVEL TIME (Program estimated size) \*\*\*\*

---

Upstream point/station elevation = 1449.000(Ft.)  
 Downstream point/station elevation = 1445.000(Ft.)

## Keller Crossing – Tr. 38163

### ATTACHMENT B – Rational Method, Proposed Condition

Pipe length = 270.00(Ft.) Manning's N = 0.013  
 No. of pipes = 1 Required pipe flow = 45.141(CFS)  
 Nearest computed pipe diameter = 30.00(In.)  
 Calculated individual pipe flow = 45.141(CFS)  
 Normal flow depth in pipe = 22.34(In.)  
 Flow top width inside pipe = 26.17(In.)  
 Critical Depth = 26.74(In.)  
 Pipe flow velocity = 11.52(Ft/s)  
 Travel time through pipe = 0.39 min.  
 Time of concentration (TC) = 13.12 min.

++++++  
 Process from Point/Station 2.500 to Point/Station 2.600  
 \*\*\*\* SUBAREA FLOW ADDITION \*\*\*\*

---

UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.850  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 0.000  
 Decimal fraction soil group C = 1.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 86.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Time of concentration = 13.12 min.  
 Rainfall intensity = 3.668(In/Hr) for a 100.0 year storm  
 Subarea runoff = 2.088(CFS) for 0.670(Ac.)  
 Total runoff = 47.229(CFS) Total area = 14.180(Ac.)  
 End of computations, total study area = 629.96 (Ac.)  
 The following figures may  
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.710  
 Area averaged RI index number = 78.7

## **ATTACHMENT C:**

**INFLOW HYDROGRAPHS, EXISTING CONDITION**

**INFLOW HYDROGRAPHS  
EXISTING CONDITION  
Drainage Area C (Only)**

Keller Crossing  
ATTACHMENT C – Inflow Hydrographs, Existing Condition

<b>Keller Crossing</b>					
<b>Manning "n" Value Worksheet</b>					
<b>Drainage Area C - 91.5 Ac (Existing)</b>					
[1]	[2]	[3]	[4]	[5]	[7]
Subarea	Area in (Ac)	Land Use (Plate D-5.6)	"n" Value	Decimal portion of Area [2] / SUM[2]	Average "n" Value [4] * [5]
	91.5	Natural	0.035	1.00	0.035
		Res 1 Ac	0.015	0.00	0.000
		Res 1/2 Ac	0.015	0.00	0.000
		Res 1/4 Ac	0.015	0.00	0.000
		Res < 1/4 Ac	0.015	0.00	0.000
		Apartment	0.015	0.00	0.000
		Mobil Home	0.015	0.00	0.000
		Hospital	0.02	0.00	0.000
		Commercial	0.015	0.00	0.000
Sum =	91.5			1.00	<b>0.035</b>

<b>Keller Crossing</b>							
<b>Runoff Index (RI) Worksheet</b>							
<b>Drainage Area C - 91.5 Ac (Existing)</b>							
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Subarea	Area in (Ac)	Soil Group	Cover Type	RI Number (Plate E6-1)	Land Use	Decimal portion of Area [2] / SUM[2]	Average RI Value [5] * [7]
Natural	11	B	grass (fair)	69	Natural	0.12	8.3
	36	C	grass (fair)	79	Natural	0.39	31.1
	44.5	D	grass (fair)	84	Natural	0.49	40.9
Sum =	91.5					1.00	<b>80.2</b>

Keller Crossing  
ATTACHMENT C – Inflow Hydrographs, Existing Condition

Keller Crossing						
Soil Low Loss Rate Worksheet						
Drainage Area C - 91.5 Ac (Existing)						
[1]	[2]	[3]	[4]	[5]	[6]	[7]
Subarea	Area in (Ac)	Land Use (Plate D-5.6)	% Impervious (Plate D-5.6)	Soil Low Loss Rate 0.9-(0.8)* [4]	Decimal portion of Area [2] / SUM[2]	Average Low Loss Rate [5] * [6]
	91.5	Natural	0	0.90	1.00	0.90
		Basin	5	0.86	0.00	0.00
		Res 1/2 Ac	40	0.58	0.00	0.00
		Res 1/4 Ac	50	0.50	0.00	0.00
		Res < 1/4 Ac	65	0.38	0.00	0.00
		Apartment	80	0.26	0.00	0.00
		Mobil Home	75	0.30	0.00	0.00
		Hospital	75	0.30	0.00	0.00
		Commercial	90	0.18	0.00	0.00
Sum =	91.5				1.00	<b>0.90</b>

**Keller Crossing**  
**ATTACHMENT C – Inflow Hydrographs, Existing Condition**

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx2exh12.out

+++++

Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format  
-----

Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
2-year 1-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 2.00  
Area Averaged 2-Year Rainfall = 0.528 (In)  
Area Averaged 100-Year Rainfall = 1.590 (In)

Point rain (area averaged) = 0.528 (In)



# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 0.528(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
Sum (F) =						0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435

Minimum soil loss rate ((In/Hr)) = 0.217

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.900

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max   Low	Effective (In/Hr)
1	0.08	4.40	( 0.435) 0.279	0.251 0.028
2	0.17	4.50	( 0.435) 0.285	0.256 0.028
3	0.25	5.40	( 0.435) 0.342	0.308 0.034
4	0.33	5.40	( 0.435) 0.342	0.308 0.034
5	0.42	5.70	( 0.435) 0.361	0.325 0.036
6	0.50	6.40	( 0.435) 0.405	0.365 0.041
7	0.58	7.90	0.435 ( 0.450)	0.066
8	0.67	9.10	0.435 ( 0.518)	0.142
9	0.75	12.80	0.435 ( 0.729)	0.376
10	0.83	25.60	0.435 ( 1.459)	1.186

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

11	0.92	7.90	0.500	0.435	( 0.450)	0.066
12	1.00	4.90	0.310	( 0.435)	0.279	0.031

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.1

Flood volume = Effective rainfall 0.17(In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 1.3(Ac.Ft)  
Total soil loss = 0.36(In)  
Total soil loss = 2.709(Ac.Ft)  
Total rainfall = 0.53(In)  
Flood volume = 57207.0 Cubic Feet  
Total soil loss = 118020.1 Cubic Feet

-----  
Peak flow rate of this hydrograph = 44.595(CFS)  
-----

+++++

1 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0012	0.18	Q				
0+10	0.0076	0.93	Q				
0+15	0.0194	1.71	VQ				
0+20	0.0344	2.18	Q				
0+25	0.0518	2.52	VQ				
0+30	0.0709	2.78	Q				
0+35	0.0931	3.23	Q				
0+40	0.1248	4.60	Q				
0+45	0.1862	8.91	V Q				
0+50	0.3424	22.69	V	Q			
0+55	0.6496	44.59		V	Q		
1+ 0	0.9146	38.48			V	Q	
1+ 5	1.0435	18.72		Q		V	
1+10	1.1190	10.96		Q		V	
1+15	1.1697	7.37		Q		V	
1+20	1.2061	5.28		Q		V	
1+25	1.2330	3.90		Q		V	
1+30	1.2534	2.96		Q		V	
1+35	1.2701	2.43		Q		V	
1+40	1.2829	1.85		Q		V	
1+45	1.2928	1.44		Q		V	
1+50	1.3004	1.10		Q		V	
1+55	1.3067	0.92		Q		V	
2+ 0	1.3127	0.87		Q		V	
2+ 5	1.3131	0.06		Q		V	
2+10	1.3133	0.02		Q		V	

**Keller Crossing**  
**ATTACHMENT C – Inflow Hydrographs, Existing Condition**

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx2exh32.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format  
-----

Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
2-year 3-hour storm  
-----

Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 3 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 2.00  
Area Averaged 2-Year Rainfall = 0.911 (In)  
Area Averaged 100-Year Rainfall = 2.330 (In)

Point rain (area averaged) = 0.911 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 0.911(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
						Sum (F) = 0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435  
 Minimum soil loss rate ((In/Hr)) = 0.217  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.900

-----  
 U n i t   H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.142	( 0.435)	0.128	0.014
2	0.17	1.30	0.142	( 0.435)	0.128	0.014
3	0.25	1.10	0.120	( 0.435)	0.108	0.012
4	0.33	1.50	0.164	( 0.435)	0.148	0.016
5	0.42	1.50	0.164	( 0.435)	0.148	0.016
6	0.50	1.80	0.197	( 0.435)	0.177	0.020
7	0.58	1.50	0.164	( 0.435)	0.148	0.016
8	0.67	1.80	0.197	( 0.435)	0.177	0.020
9	0.75	1.80	0.197	( 0.435)	0.177	0.020
10	0.83	1.50	0.164	( 0.435)	0.148	0.016
11	0.92	1.60	0.175	( 0.435)	0.157	0.017
12	1.00	1.80	0.197	( 0.435)	0.177	0.020

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

13	1.08	2.20	0.240	( 0.435)	0.216	0.024
14	1.17	2.20	0.240	( 0.435)	0.216	0.024
15	1.25	2.20	0.240	( 0.435)	0.216	0.024
16	1.33	2.00	0.219	( 0.435)	0.197	0.022
17	1.42	2.60	0.284	( 0.435)	0.256	0.028
18	1.50	2.70	0.295	( 0.435)	0.266	0.030
19	1.58	2.40	0.262	( 0.435)	0.236	0.026
20	1.67	2.70	0.295	( 0.435)	0.266	0.030
21	1.75	3.30	0.361	( 0.435)	0.325	0.036
22	1.83	3.10	0.339	( 0.435)	0.305	0.034
23	1.92	2.90	0.317	( 0.435)	0.285	0.032
24	2.00	3.00	0.328	( 0.435)	0.295	0.033
25	2.08	3.10	0.339	( 0.435)	0.305	0.034
26	2.17	4.20	0.459	( 0.435)	0.413	0.046
27	2.25	5.00	0.546	0.435	( 0.492)	0.112
28	2.33	3.50	0.382	( 0.435)	0.344	0.038
29	2.42	6.80	0.743	0.435	( 0.669)	0.309
30	2.50	7.30	0.798	0.435	( 0.718)	0.363
31	2.58	8.20	0.896	0.435	( 0.806)	0.461
32	2.67	5.90	0.645	0.435	( 0.580)	0.210
33	2.75	2.00	0.219	( 0.435)	0.197	0.022
34	2.83	1.80	0.197	( 0.435)	0.177	0.020
35	2.92	1.80	0.197	( 0.435)	0.177	0.020
36	3.00	0.60	0.066	( 0.435)	0.059	0.007

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.2

Flood volume = Effective rainfall 0.18 (In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 1.4 (Ac.Ft)  
Total soil loss = 0.73 (In)  
Total soil loss = 5.555 (Ac.Ft)  
Total rainfall = 0.91 (In)  
Flood volume = 60479.6 Cubic Feet  
Total soil loss = 241983.3 Cubic Feet

-----  
Peak flow rate of this hydrograph = 27.712 (CFS)  
-----

+++++

3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time (h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0006	0.09	Q				
0+10	0.0039	0.47	Q				
0+15	0.0096	0.83	VQ				
0+20	0.0161	0.95	VQ				
0+25	0.0237	1.10	VQ				
0+30	0.0324	1.27	VQ				
0+35	0.0422	1.41	Q				
0+40	0.0524	1.48	Q				
0+45	0.0631	1.55	VQ				
0+50	0.0743	1.63	Q				
0+55	0.0853	1.60	Q				
1+ 0	0.0962	1.59	Q				
1+ 5	0.1079	1.69	QV				
1+10	0.1208	1.88	QV				
1+15	0.1347	2.02	QV				
1+20	0.1490	2.07	Q V				
1+25	0.1634	2.09	Q V				
1+30	0.1789	2.24	Q V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+35	0.1955	2.42	Q V				
1+40	0.2124	2.45	Q V				
1+45	0.2299	2.55	Q V				
1+50	0.2492	2.79	Q V				
1+55	0.2694	2.93	Q V				
2+ 0	0.2895	2.92	Q V				
2+ 5	0.3097	2.93	Q V				
2+10	0.3308	3.07	Q V				
2+15	0.3574	3.86	Q V				
2+20	0.3954	5.51	Q V				
2+25	0.4443	7.10	Q V				
2+30	0.5380	13.61	V Q				
2+35	0.6924	22.42	V Q				
2+40	0.8833	27.71	V Q				
2+45	1.0517	24.45	V Q				
2+50	1.1568	15.26	V Q				
2+55	1.2198	9.15	V Q				
3+ 0	1.2653	6.61	Q V				
3+ 5	1.2988	4.85	Q V				
3+10	1.3226	3.46	Q V				
3+15	1.3400	2.53	Q V				
3+20	1.3535	1.96	Q V				
3+25	1.3641	1.53	Q V				
3+30	1.3719	1.13	Q V				
3+35	1.3784	0.95	Q V				
3+40	1.3831	0.69	Q V				
3+45	1.3865	0.48	Q V				
3+50	1.3878	0.19	Q V				
3+55	1.3881	0.04	Q V				
4+ 0	1.3883	0.03	Q V				
4+ 5	1.3884	0.02	Q V				
4+10	1.3884	0.00	Q V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx2exh62.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
2-year 6-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 2.00  
Area Averaged 2-Year Rainfall = 1.290 (In)  
Area Averaged 100-Year Rainfall = 3.170 (In)

Point rain (area averaged) = 1.290 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 1.290 (In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
						Sum (F) = 0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435  
 Minimum soil loss rate ((In/Hr)) = 0.217  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.900

-----  
 U n i t H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
-----			
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.50	( 0.435)	0.070	0.008
2	0.17	0.60	( 0.435)	0.084	0.009
3	0.25	0.60	( 0.435)	0.084	0.009
4	0.33	0.60	( 0.435)	0.084	0.009
5	0.42	0.60	( 0.435)	0.084	0.009
6	0.50	0.70	( 0.435)	0.097	0.011
7	0.58	0.70	( 0.435)	0.097	0.011
8	0.67	0.70	( 0.435)	0.097	0.011
9	0.75	0.70	( 0.435)	0.097	0.011
10	0.83	0.70	( 0.435)	0.097	0.011
11	0.92	0.70	( 0.435)	0.097	0.011
12	1.00	0.80	( 0.435)	0.111	0.012



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

13	1.08	0.80	0.124	( 0.435)	0.111	0.012
14	1.17	0.80	0.124	( 0.435)	0.111	0.012
15	1.25	0.80	0.124	( 0.435)	0.111	0.012
16	1.33	0.80	0.124	( 0.435)	0.111	0.012
17	1.42	0.80	0.124	( 0.435)	0.111	0.012
18	1.50	0.80	0.124	( 0.435)	0.111	0.012
19	1.58	0.80	0.124	( 0.435)	0.111	0.012
20	1.67	0.80	0.124	( 0.435)	0.111	0.012
21	1.75	0.80	0.124	( 0.435)	0.111	0.012
22	1.83	0.80	0.124	( 0.435)	0.111	0.012
23	1.92	0.80	0.124	( 0.435)	0.111	0.012
24	2.00	0.90	0.139	( 0.435)	0.125	0.014
25	2.08	0.80	0.124	( 0.435)	0.111	0.012
26	2.17	0.90	0.139	( 0.435)	0.125	0.014
27	2.25	0.90	0.139	( 0.435)	0.125	0.014
28	2.33	0.90	0.139	( 0.435)	0.125	0.014
29	2.42	0.90	0.139	( 0.435)	0.125	0.014
30	2.50	0.90	0.139	( 0.435)	0.125	0.014
31	2.58	0.90	0.139	( 0.435)	0.125	0.014
32	2.67	0.90	0.139	( 0.435)	0.125	0.014
33	2.75	1.00	0.155	( 0.435)	0.139	0.015
34	2.83	1.00	0.155	( 0.435)	0.139	0.015
35	2.92	1.00	0.155	( 0.435)	0.139	0.015
36	3.00	1.00	0.155	( 0.435)	0.139	0.015
37	3.08	1.00	0.155	( 0.435)	0.139	0.015
38	3.17	1.10	0.170	( 0.435)	0.153	0.017
39	3.25	1.10	0.170	( 0.435)	0.153	0.017
40	3.33	1.10	0.170	( 0.435)	0.153	0.017
41	3.42	1.20	0.186	( 0.435)	0.167	0.019
42	3.50	1.30	0.201	( 0.435)	0.181	0.020
43	3.58	1.40	0.217	( 0.435)	0.195	0.022
44	3.67	1.40	0.217	( 0.435)	0.195	0.022
45	3.75	1.50	0.232	( 0.435)	0.209	0.023
46	3.83	1.50	0.232	( 0.435)	0.209	0.023
47	3.92	1.60	0.248	( 0.435)	0.223	0.025
48	4.00	1.60	0.248	( 0.435)	0.223	0.025
49	4.08	1.70	0.263	( 0.435)	0.237	0.026
50	4.17	1.80	0.279	( 0.435)	0.251	0.028
51	4.25	1.90	0.294	( 0.435)	0.265	0.029
52	4.33	2.00	0.310	( 0.435)	0.279	0.031
53	4.42	2.10	0.325	( 0.435)	0.292	0.032
54	4.50	2.10	0.325	( 0.435)	0.292	0.032
55	4.58	2.20	0.340	( 0.435)	0.306	0.034
56	4.67	2.30	0.356	( 0.435)	0.320	0.036
57	4.75	2.40	0.371	( 0.435)	0.334	0.037
58	4.83	2.40	0.371	( 0.435)	0.334	0.037
59	4.92	2.50	0.387	( 0.435)	0.348	0.039
60	5.00	2.60	0.402	( 0.435)	0.362	0.040
61	5.08	3.10	0.480	( 0.435)	0.432	0.048
62	5.17	3.60	0.557	0.435	( 0.501)	0.123
63	5.25	3.90	0.604	0.435	( 0.543)	0.169
64	5.33	4.20	0.650	0.435	( 0.585)	0.215
65	5.42	4.70	0.727	0.435	( 0.655)	0.293
66	5.50	5.60	0.867	0.435	( 0.780)	0.432
67	5.58	1.90	0.294	( 0.435)	0.265	0.029
68	5.67	0.90	0.139	( 0.435)	0.125	0.014
69	5.75	0.60	0.093	( 0.435)	0.084	0.009
70	5.83	0.50	0.077	( 0.435)	0.070	0.008
71	5.92	0.30	0.046	( 0.435)	0.042	0.005
72	6.00	0.20	0.031	( 0.435)	0.028	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.4

Flood volume = Effective rainfall 0.20 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

times area            91.5(Ac.)/[ (In)/(Ft.) ] =            1.5(Ac.Ft)  
 Total soil loss =            1.09(In)  
 Total soil loss =            8.284(Ac.Ft)  
 Total rainfall =            1.29(In)  
 Flood volume =            67500.4 Cubic Feet  
 Total soil loss =            360831.9 Cubic Feet

Peak flow rate of this hydrograph =            23.804(CFS)

+-----+  
 6 - H O U R        S T O R M  
 R u n o f f        H y d r o g r a p h

Hydrograph in    5    Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0003	0.05	Q				
0+10	0.0022	0.27	Q				
0+15	0.0057	0.51	Q				
0+20	0.0101	0.64	Q				
0+25	0.0149	0.70	Q				
0+30	0.0200	0.75	Q				
0+35	0.0257	0.82	VQ				
0+40	0.0318	0.88	VQ				
0+45	0.0381	0.92	VQ				
0+50	0.0445	0.94	IQ				
0+55	0.0511	0.95	IQ				
1+ 0	0.0579	0.98	IQ				
1+ 5	0.0649	1.03	IQ				
1+10	0.0723	1.08	IQ				
1+15	0.0799	1.10	IQV				
1+20	0.0876	1.11	IQV				
1+25	0.0953	1.12	IQV				
1+30	0.1031	1.13	IQV				
1+35	0.1109	1.13	IQV				
1+40	0.1187	1.13	IQ V				
1+45	0.1265	1.14	IQ V				
1+50	0.1343	1.14	IQ V				
1+55	0.1422	1.14	IQ V				
2+ 0	0.1501	1.15	IQ V				
2+ 5	0.1583	1.18	IQ V				
2+10	0.1665	1.19	IQ V				
2+15	0.1748	1.21	IQ V				
2+20	0.1834	1.24	IQ V				
2+25	0.1920	1.26	IQ V				
2+30	0.2007	1.26	IQ V				
2+35	0.2095	1.27	IQ V				
2+40	0.2183	1.27	IQ V				
2+45	0.2271	1.29	IQ V				
2+50	0.2363	1.33	IQ V				
2+55	0.2457	1.37	IQ V				
3+ 0	0.2553	1.39	IQ V				
3+ 5	0.2650	1.40	IQ V				
3+10	0.2747	1.42	IQ V				
3+15	0.2848	1.46	IQ V				
3+20	0.2952	1.51	IQ V				
3+25	0.3058	1.54	IQ V				
3+30	0.3168	1.60	IQ V				
3+35	0.3285	1.70	IQ V				
3+40	0.3410	1.81	IQ V				
3+45	0.3540	1.89	IQ V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

3+50	0.3675	1.96	Q	V				
3+55	0.3815	2.04	Q	V				
4+ 0	0.3961	2.11	Q	V				
4+ 5	0.4111	2.18	Q	V				
4+10	0.4267	2.27	Q	V				
4+15	0.4431	2.38	Q	V				
4+20	0.4604	2.50	Q	V				
4+25	0.4785	2.63	Q	V				
4+30	0.4975	2.76	Q	V				
4+35	0.5172	2.85	Q	V				
4+40	0.5375	2.95	Q	V				
4+45	0.5586	3.07	Q	V				
4+50	0.5806	3.19	Q	V				
4+55	0.6032	3.28	Q	V				
5+ 0	0.6265	3.38	Q	V				
5+ 5	0.6508	3.54	Q	V				
5+10	0.6804	4.30	Q	V				
5+15	0.7276	6.85	Q	V				
5+20	0.7995	10.45	Q	V				
5+25	0.8978	14.28	Q	V				
5+30	1.0318	19.45	Q	V				
5+35	1.1957	23.80	Q	V				
5+40	1.3200	18.05	Q	V				
5+45	1.3860	9.58	Q	V				
5+50	1.4288	6.21	Q	V				
5+55	1.4601	4.55	Q	V				
6+ 0	1.4836	3.41	Q	V				
6+ 5	1.5013	2.57	Q	V				
6+10	1.5145	1.93	Q	V				
6+15	1.5248	1.49	Q	V				
6+20	1.5327	1.14	Q	V				
6+25	1.5387	0.87	Q	V				
6+30	1.5431	0.65	Q	V				
6+35	1.5465	0.48	Q	V				
6+40	1.5489	0.35	Q	V				
6+45	1.5492	0.05	Q	V				
6+50	1.5494	0.03	Q	V				
6+55	1.5495	0.02	Q	V				
7+ 0	1.5495	0.01	Q	V				
7+ 5	1.5496	0.00	Q	V				
7+10	1.5496	0.00	Q	V				

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx2exh242.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
2-year 24-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 2.00  
Area Averaged 2-Year Rainfall = 2.250 (In)  
Area Averaged 100-Year Rainfall = 5.870 (In)

Point rain (area averaged) = 2.250 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 2.250 (In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
Sum (F) =						0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435  
 Minimum soil loss rate ((In/Hr)) = 0.217  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.900

-----  
 U n i t   H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
-----			
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.018	( 0.770)	0.016	0.002
2	0.17	0.07	0.018	( 0.767)	0.016	0.002
3	0.25	0.07	0.018	( 0.764)	0.016	0.002
4	0.33	0.10	0.027	( 0.761)	0.024	0.003
5	0.42	0.10	0.027	( 0.759)	0.024	0.003
6	0.50	0.10	0.027	( 0.756)	0.024	0.003
7	0.58	0.10	0.027	( 0.753)	0.024	0.003
8	0.67	0.10	0.027	( 0.750)	0.024	0.003
9	0.75	0.10	0.027	( 0.747)	0.024	0.003
10	0.83	0.13	0.036	( 0.744)	0.032	0.004
11	0.92	0.13	0.036	( 0.741)	0.032	0.004
12	1.00	0.13	0.036	( 0.738)	0.032	0.004

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

13	1.08	0.10	0.027	( 0.735)	0.024	0.003
14	1.17	0.10	0.027	( 0.732)	0.024	0.003
15	1.25	0.10	0.027	( 0.729)	0.024	0.003
16	1.33	0.10	0.027	( 0.726)	0.024	0.003
17	1.42	0.10	0.027	( 0.723)	0.024	0.003
18	1.50	0.10	0.027	( 0.721)	0.024	0.003
19	1.58	0.10	0.027	( 0.718)	0.024	0.003
20	1.67	0.10	0.027	( 0.715)	0.024	0.003
21	1.75	0.10	0.027	( 0.712)	0.024	0.003
22	1.83	0.13	0.036	( 0.709)	0.032	0.004
23	1.92	0.13	0.036	( 0.706)	0.032	0.004
24	2.00	0.13	0.036	( 0.703)	0.032	0.004
25	2.08	0.13	0.036	( 0.700)	0.032	0.004
26	2.17	0.13	0.036	( 0.698)	0.032	0.004
27	2.25	0.13	0.036	( 0.695)	0.032	0.004
28	2.33	0.13	0.036	( 0.692)	0.032	0.004
29	2.42	0.13	0.036	( 0.689)	0.032	0.004
30	2.50	0.13	0.036	( 0.686)	0.032	0.004
31	2.58	0.17	0.045	( 0.684)	0.040	0.004
32	2.67	0.17	0.045	( 0.681)	0.040	0.004
33	2.75	0.17	0.045	( 0.678)	0.040	0.004
34	2.83	0.17	0.045	( 0.675)	0.040	0.004
35	2.92	0.17	0.045	( 0.672)	0.040	0.004
36	3.00	0.17	0.045	( 0.670)	0.040	0.004
37	3.08	0.17	0.045	( 0.667)	0.040	0.004
38	3.17	0.17	0.045	( 0.664)	0.040	0.004
39	3.25	0.17	0.045	( 0.661)	0.040	0.004
40	3.33	0.17	0.045	( 0.659)	0.040	0.004
41	3.42	0.17	0.045	( 0.656)	0.040	0.004
42	3.50	0.17	0.045	( 0.653)	0.040	0.004
43	3.58	0.17	0.045	( 0.650)	0.040	0.004
44	3.67	0.17	0.045	( 0.648)	0.040	0.004
45	3.75	0.17	0.045	( 0.645)	0.040	0.004
46	3.83	0.20	0.054	( 0.642)	0.049	0.005
47	3.92	0.20	0.054	( 0.639)	0.049	0.005
48	4.00	0.20	0.054	( 0.637)	0.049	0.005
49	4.08	0.20	0.054	( 0.634)	0.049	0.005
50	4.17	0.20	0.054	( 0.631)	0.049	0.005
51	4.25	0.20	0.054	( 0.629)	0.049	0.005
52	4.33	0.23	0.063	( 0.626)	0.057	0.006
53	4.42	0.23	0.063	( 0.623)	0.057	0.006
54	4.50	0.23	0.063	( 0.621)	0.057	0.006
55	4.58	0.23	0.063	( 0.618)	0.057	0.006
56	4.67	0.23	0.063	( 0.615)	0.057	0.006
57	4.75	0.23	0.063	( 0.613)	0.057	0.006
58	4.83	0.27	0.072	( 0.610)	0.065	0.007
59	4.92	0.27	0.072	( 0.607)	0.065	0.007
60	5.00	0.27	0.072	( 0.605)	0.065	0.007
61	5.08	0.20	0.054	( 0.602)	0.049	0.005
62	5.17	0.20	0.054	( 0.599)	0.049	0.005
63	5.25	0.20	0.054	( 0.597)	0.049	0.005
64	5.33	0.23	0.063	( 0.594)	0.057	0.006
65	5.42	0.23	0.063	( 0.592)	0.057	0.006
66	5.50	0.23	0.063	( 0.589)	0.057	0.006
67	5.58	0.27	0.072	( 0.586)	0.065	0.007
68	5.67	0.27	0.072	( 0.584)	0.065	0.007
69	5.75	0.27	0.072	( 0.581)	0.065	0.007
70	5.83	0.27	0.072	( 0.579)	0.065	0.007
71	5.92	0.27	0.072	( 0.576)	0.065	0.007
72	6.00	0.27	0.072	( 0.574)	0.065	0.007
73	6.08	0.30	0.081	( 0.571)	0.073	0.008
74	6.17	0.30	0.081	( 0.569)	0.073	0.008
75	6.25	0.30	0.081	( 0.566)	0.073	0.008

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

76	6.33	0.30	0.081	( 0.563)	0.073	0.008
77	6.42	0.30	0.081	( 0.561)	0.073	0.008
78	6.50	0.30	0.081	( 0.558)	0.073	0.008
79	6.58	0.33	0.090	( 0.556)	0.081	0.009
80	6.67	0.33	0.090	( 0.553)	0.081	0.009
81	6.75	0.33	0.090	( 0.551)	0.081	0.009
82	6.83	0.33	0.090	( 0.548)	0.081	0.009
83	6.92	0.33	0.090	( 0.546)	0.081	0.009
84	7.00	0.33	0.090	( 0.543)	0.081	0.009
85	7.08	0.33	0.090	( 0.541)	0.081	0.009
86	7.17	0.33	0.090	( 0.539)	0.081	0.009
87	7.25	0.33	0.090	( 0.536)	0.081	0.009
88	7.33	0.37	0.099	( 0.534)	0.089	0.010
89	7.42	0.37	0.099	( 0.531)	0.089	0.010
90	7.50	0.37	0.099	( 0.529)	0.089	0.010
91	7.58	0.40	0.108	( 0.526)	0.097	0.011
92	7.67	0.40	0.108	( 0.524)	0.097	0.011
93	7.75	0.40	0.108	( 0.522)	0.097	0.011
94	7.83	0.43	0.117	( 0.519)	0.105	0.012
95	7.92	0.43	0.117	( 0.517)	0.105	0.012
96	8.00	0.43	0.117	( 0.514)	0.105	0.012
97	8.08	0.50	0.135	( 0.512)	0.121	0.013
98	8.17	0.50	0.135	( 0.510)	0.121	0.013
99	8.25	0.50	0.135	( 0.507)	0.121	0.013
100	8.33	0.50	0.135	( 0.505)	0.121	0.013
101	8.42	0.50	0.135	( 0.502)	0.121	0.013
102	8.50	0.50	0.135	( 0.500)	0.121	0.013
103	8.58	0.53	0.144	( 0.498)	0.130	0.014
104	8.67	0.53	0.144	( 0.495)	0.130	0.014
105	8.75	0.53	0.144	( 0.493)	0.130	0.014
106	8.83	0.57	0.153	( 0.491)	0.138	0.015
107	8.92	0.57	0.153	( 0.488)	0.138	0.015
108	9.00	0.57	0.153	( 0.486)	0.138	0.015
109	9.08	0.63	0.171	( 0.484)	0.154	0.017
110	9.17	0.63	0.171	( 0.481)	0.154	0.017
111	9.25	0.63	0.171	( 0.479)	0.154	0.017
112	9.33	0.67	0.180	( 0.477)	0.162	0.018
113	9.42	0.67	0.180	( 0.475)	0.162	0.018
114	9.50	0.67	0.180	( 0.472)	0.162	0.018
115	9.58	0.70	0.189	( 0.470)	0.170	0.019
116	9.67	0.70	0.189	( 0.468)	0.170	0.019
117	9.75	0.70	0.189	( 0.466)	0.170	0.019
118	9.83	0.73	0.198	( 0.463)	0.178	0.020
119	9.92	0.73	0.198	( 0.461)	0.178	0.020
120	10.00	0.73	0.198	( 0.459)	0.178	0.020
121	10.08	0.50	0.135	( 0.457)	0.121	0.013
122	10.17	0.50	0.135	( 0.454)	0.121	0.013
123	10.25	0.50	0.135	( 0.452)	0.121	0.013
124	10.33	0.50	0.135	( 0.450)	0.121	0.013
125	10.42	0.50	0.135	( 0.448)	0.121	0.013
126	10.50	0.50	0.135	( 0.446)	0.121	0.013
127	10.58	0.67	0.180	( 0.444)	0.162	0.018
128	10.67	0.67	0.180	( 0.441)	0.162	0.018
129	10.75	0.67	0.180	( 0.439)	0.162	0.018
130	10.83	0.67	0.180	( 0.437)	0.162	0.018
131	10.92	0.67	0.180	( 0.435)	0.162	0.018
132	11.00	0.67	0.180	( 0.433)	0.162	0.018
133	11.08	0.63	0.171	( 0.431)	0.154	0.017
134	11.17	0.63	0.171	( 0.429)	0.154	0.017
135	11.25	0.63	0.171	( 0.426)	0.154	0.017
136	11.33	0.63	0.171	( 0.424)	0.154	0.017
137	11.42	0.63	0.171	( 0.422)	0.154	0.017
138	11.50	0.63	0.171	( 0.420)	0.154	0.017

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

139	11.58	0.57	0.153	( 0.418)	0.138	0.015
140	11.67	0.57	0.153	( 0.416)	0.138	0.015
141	11.75	0.57	0.153	( 0.414)	0.138	0.015
142	11.83	0.60	0.162	( 0.412)	0.146	0.016
143	11.92	0.60	0.162	( 0.410)	0.146	0.016
144	12.00	0.60	0.162	( 0.408)	0.146	0.016
145	12.08	0.83	0.225	( 0.406)	0.202	0.022
146	12.17	0.83	0.225	( 0.404)	0.202	0.022
147	12.25	0.83	0.225	( 0.402)	0.202	0.022
148	12.33	0.87	0.234	( 0.400)	0.211	0.023
149	12.42	0.87	0.234	( 0.398)	0.211	0.023
150	12.50	0.87	0.234	( 0.396)	0.211	0.023
151	12.58	0.93	0.252	( 0.394)	0.227	0.025
152	12.67	0.93	0.252	( 0.392)	0.227	0.025
153	12.75	0.93	0.252	( 0.390)	0.227	0.025
154	12.83	0.97	0.261	( 0.388)	0.235	0.026
155	12.92	0.97	0.261	( 0.386)	0.235	0.026
156	13.00	0.97	0.261	( 0.384)	0.235	0.026
157	13.08	1.13	0.306	( 0.382)	0.275	0.031
158	13.17	1.13	0.306	( 0.380)	0.275	0.031
159	13.25	1.13	0.306	( 0.378)	0.275	0.031
160	13.33	1.13	0.306	( 0.376)	0.275	0.031
161	13.42	1.13	0.306	( 0.374)	0.275	0.031
162	13.50	1.13	0.306	( 0.372)	0.275	0.031
163	13.58	0.77	0.207	( 0.370)	0.186	0.021
164	13.67	0.77	0.207	( 0.368)	0.186	0.021
165	13.75	0.77	0.207	( 0.367)	0.186	0.021
166	13.83	0.77	0.207	( 0.365)	0.186	0.021
167	13.92	0.77	0.207	( 0.363)	0.186	0.021
168	14.00	0.77	0.207	( 0.361)	0.186	0.021
169	14.08	0.90	0.243	( 0.359)	0.219	0.024
170	14.17	0.90	0.243	( 0.357)	0.219	0.024
171	14.25	0.90	0.243	( 0.355)	0.219	0.024
172	14.33	0.87	0.234	( 0.354)	0.211	0.023
173	14.42	0.87	0.234	( 0.352)	0.211	0.023
174	14.50	0.87	0.234	( 0.350)	0.211	0.023
175	14.58	0.87	0.234	( 0.348)	0.211	0.023
176	14.67	0.87	0.234	( 0.346)	0.211	0.023
177	14.75	0.87	0.234	( 0.345)	0.211	0.023
178	14.83	0.83	0.225	( 0.343)	0.202	0.022
179	14.92	0.83	0.225	( 0.341)	0.202	0.022
180	15.00	0.83	0.225	( 0.339)	0.202	0.022
181	15.08	0.80	0.216	( 0.338)	0.194	0.022
182	15.17	0.80	0.216	( 0.336)	0.194	0.022
183	15.25	0.80	0.216	( 0.334)	0.194	0.022
184	15.33	0.77	0.207	( 0.333)	0.186	0.021
185	15.42	0.77	0.207	( 0.331)	0.186	0.021
186	15.50	0.77	0.207	( 0.329)	0.186	0.021
187	15.58	0.63	0.171	( 0.327)	0.154	0.017
188	15.67	0.63	0.171	( 0.326)	0.154	0.017
189	15.75	0.63	0.171	( 0.324)	0.154	0.017
190	15.83	0.63	0.171	( 0.322)	0.154	0.017
191	15.92	0.63	0.171	( 0.321)	0.154	0.017
192	16.00	0.63	0.171	( 0.319)	0.154	0.017
193	16.08	0.13	0.036	( 0.317)	0.032	0.004
194	16.17	0.13	0.036	( 0.316)	0.032	0.004
195	16.25	0.13	0.036	( 0.314)	0.032	0.004
196	16.33	0.13	0.036	( 0.313)	0.032	0.004
197	16.42	0.13	0.036	( 0.311)	0.032	0.004
198	16.50	0.13	0.036	( 0.309)	0.032	0.004
199	16.58	0.10	0.027	( 0.308)	0.024	0.003
200	16.67	0.10	0.027	( 0.306)	0.024	0.003
201	16.75	0.10	0.027	( 0.305)	0.024	0.003



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

202	16.83	0.10	0.027	( 0.303)	0.024	0.003
203	16.92	0.10	0.027	( 0.302)	0.024	0.003
204	17.00	0.10	0.027	( 0.300)	0.024	0.003
205	17.08	0.17	0.045	( 0.299)	0.040	0.004
206	17.17	0.17	0.045	( 0.297)	0.040	0.004
207	17.25	0.17	0.045	( 0.296)	0.040	0.004
208	17.33	0.17	0.045	( 0.294)	0.040	0.004
209	17.42	0.17	0.045	( 0.293)	0.040	0.004
210	17.50	0.17	0.045	( 0.291)	0.040	0.004
211	17.58	0.17	0.045	( 0.290)	0.040	0.004
212	17.67	0.17	0.045	( 0.288)	0.040	0.004
213	17.75	0.17	0.045	( 0.287)	0.040	0.004
214	17.83	0.13	0.036	( 0.285)	0.032	0.004
215	17.92	0.13	0.036	( 0.284)	0.032	0.004
216	18.00	0.13	0.036	( 0.283)	0.032	0.004
217	18.08	0.13	0.036	( 0.281)	0.032	0.004
218	18.17	0.13	0.036	( 0.280)	0.032	0.004
219	18.25	0.13	0.036	( 0.279)	0.032	0.004
220	18.33	0.13	0.036	( 0.277)	0.032	0.004
221	18.42	0.13	0.036	( 0.276)	0.032	0.004
222	18.50	0.13	0.036	( 0.274)	0.032	0.004
223	18.58	0.10	0.027	( 0.273)	0.024	0.003
224	18.67	0.10	0.027	( 0.272)	0.024	0.003
225	18.75	0.10	0.027	( 0.271)	0.024	0.003
226	18.83	0.07	0.018	( 0.269)	0.016	0.002
227	18.92	0.07	0.018	( 0.268)	0.016	0.002
228	19.00	0.07	0.018	( 0.267)	0.016	0.002
229	19.08	0.10	0.027	( 0.265)	0.024	0.003
230	19.17	0.10	0.027	( 0.264)	0.024	0.003
231	19.25	0.10	0.027	( 0.263)	0.024	0.003
232	19.33	0.13	0.036	( 0.262)	0.032	0.004
233	19.42	0.13	0.036	( 0.260)	0.032	0.004
234	19.50	0.13	0.036	( 0.259)	0.032	0.004
235	19.58	0.10	0.027	( 0.258)	0.024	0.003
236	19.67	0.10	0.027	( 0.257)	0.024	0.003
237	19.75	0.10	0.027	( 0.256)	0.024	0.003
238	19.83	0.07	0.018	( 0.255)	0.016	0.002
239	19.92	0.07	0.018	( 0.253)	0.016	0.002
240	20.00	0.07	0.018	( 0.252)	0.016	0.002
241	20.08	0.10	0.027	( 0.251)	0.024	0.003
242	20.17	0.10	0.027	( 0.250)	0.024	0.003
243	20.25	0.10	0.027	( 0.249)	0.024	0.003
244	20.33	0.10	0.027	( 0.248)	0.024	0.003
245	20.42	0.10	0.027	( 0.247)	0.024	0.003
246	20.50	0.10	0.027	( 0.246)	0.024	0.003
247	20.58	0.10	0.027	( 0.245)	0.024	0.003
248	20.67	0.10	0.027	( 0.244)	0.024	0.003
249	20.75	0.10	0.027	( 0.243)	0.024	0.003
250	20.83	0.07	0.018	( 0.242)	0.016	0.002
251	20.92	0.07	0.018	( 0.241)	0.016	0.002
252	21.00	0.07	0.018	( 0.240)	0.016	0.002
253	21.08	0.10	0.027	( 0.239)	0.024	0.003
254	21.17	0.10	0.027	( 0.238)	0.024	0.003
255	21.25	0.10	0.027	( 0.237)	0.024	0.003
256	21.33	0.07	0.018	( 0.236)	0.016	0.002
257	21.42	0.07	0.018	( 0.235)	0.016	0.002
258	21.50	0.07	0.018	( 0.234)	0.016	0.002
259	21.58	0.10	0.027	( 0.234)	0.024	0.003
260	21.67	0.10	0.027	( 0.233)	0.024	0.003
261	21.75	0.10	0.027	( 0.232)	0.024	0.003
262	21.83	0.07	0.018	( 0.231)	0.016	0.002
263	21.92	0.07	0.018	( 0.230)	0.016	0.002
264	22.00	0.07	0.018	( 0.229)	0.016	0.002

## Keller Crossing ATTACHMENT C – Inflow Hydrographs, Existing Condition

265	22.08	0.10	0.027	( 0.229)	0.024	0.003
266	22.17	0.10	0.027	( 0.228)	0.024	0.003
267	22.25	0.10	0.027	( 0.227)	0.024	0.003
268	22.33	0.07	0.018	( 0.227)	0.016	0.002
269	22.42	0.07	0.018	( 0.226)	0.016	0.002
270	22.50	0.07	0.018	( 0.225)	0.016	0.002
271	22.58	0.07	0.018	( 0.225)	0.016	0.002
272	22.67	0.07	0.018	( 0.224)	0.016	0.002
273	22.75	0.07	0.018	( 0.223)	0.016	0.002
274	22.83	0.07	0.018	( 0.223)	0.016	0.002
275	22.92	0.07	0.018	( 0.222)	0.016	0.002
276	23.00	0.07	0.018	( 0.222)	0.016	0.002
277	23.08	0.07	0.018	( 0.221)	0.016	0.002
278	23.17	0.07	0.018	( 0.221)	0.016	0.002
279	23.25	0.07	0.018	( 0.220)	0.016	0.002
280	23.33	0.07	0.018	( 0.220)	0.016	0.002
281	23.42	0.07	0.018	( 0.219)	0.016	0.002
282	23.50	0.07	0.018	( 0.219)	0.016	0.002
283	23.58	0.07	0.018	( 0.218)	0.016	0.002
284	23.67	0.07	0.018	( 0.218)	0.016	0.002
285	23.75	0.07	0.018	( 0.218)	0.016	0.002
286	23.83	0.07	0.018	( 0.218)	0.016	0.002
287	23.92	0.07	0.018	( 0.217)	0.016	0.002
288	24.00	0.07	0.018	( 0.217)	0.016	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.7

Flood volume = Effective rainfall 0.22 (In)  
times area 91.5 (Ac.) / [(In) / (Ft.)] = 1.7 (Ac.Ft)  
Total soil loss = 2.02 (In)  
Total soil loss = 15.438 (Ac.Ft)  
Total rainfall = 2.25 (In)  
Flood volume = 74719.3 Cubic Feet  
Total soil loss = 672473.4 Cubic Feet

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Peak flow rate of this hydrograph = 2.761 (CFS)  
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24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
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Time (h+m)	Volume Ac.Ft	Q (CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0005	0.06	Q				
0+15	0.0012	0.11	Q				
0+20	0.0021	0.13	Q				
0+25	0.0033	0.17	Q				
0+30	0.0047	0.20	Q				
0+35	0.0061	0.21	Q				
0+40	0.0077	0.22	Q				
0+45	0.0092	0.23	Q				
0+50	0.0109	0.24	Q				
0+55	0.0127	0.27	VQ				
1+ 0	0.0148	0.29	VQ				
1+ 5	0.0168	0.30	VQ				
1+10	0.0188	0.28	VQ				
1+15	0.0206	0.27	VQ				
1+20	0.0224	0.26	VQ				
1+25	0.0242	0.26	VQ				
1+30	0.0259	0.26	VQ				

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+35	0.0277	0.25	VQ				
1+40	0.0294	0.25	VQ				
1+45	0.0312	0.25	VQ				
1+50	0.0329	0.26	VQ				
1+55	0.0349	0.28	VQ				
2+ 0	0.0370	0.30	VQ				
2+ 5	0.0391	0.31	VQ				
2+10	0.0413	0.32	VQ				
2+15	0.0435	0.32	IQ				
2+20	0.0458	0.32	IQ				
2+25	0.0480	0.33	IQ				
2+30	0.0503	0.33	IQ				
2+35	0.0526	0.33	IQ				
2+40	0.0550	0.36	IQ				
2+45	0.0577	0.38	IQ				
2+50	0.0604	0.39	IQ				
2+55	0.0632	0.40	IQ				
3+ 0	0.0659	0.40	IQ				
3+ 5	0.0687	0.41	IQ				
3+10	0.0716	0.41	IQ				
3+15	0.0744	0.41	IQ				
3+20	0.0772	0.41	IQ				
3+25	0.0801	0.41	IQ				
3+30	0.0829	0.41	IQ				
3+35	0.0858	0.41	IQ				
3+40	0.0886	0.41	IQV				
3+45	0.0915	0.42	IQV				
3+50	0.0944	0.42	IQV				
3+55	0.0974	0.45	IQV				
4+ 0	0.1007	0.47	IQV				
4+ 5	0.1040	0.48	IQV				
4+10	0.1073	0.48	IQV				
4+15	0.1107	0.49	IQV				
4+20	0.1141	0.50	IQV				
4+25	0.1177	0.52	I Q				
4+30	0.1214	0.55	I Q				
4+35	0.1253	0.56	I Q				
4+40	0.1292	0.56	I QV				
4+45	0.1331	0.57	I QV				
4+50	0.1371	0.58	I QV				
4+55	0.1412	0.60	I QV				
5+ 0	0.1456	0.63	I QV				
5+ 5	0.1499	0.63	I QV				
5+10	0.1539	0.59	I QV				
5+15	0.1577	0.54	I QV				
5+20	0.1614	0.53	I QV				
5+25	0.1652	0.55	I QV				
5+30	0.1691	0.57	I QV				
5+35	0.1731	0.58	I Q V				
5+40	0.1772	0.61	I Q V				
5+45	0.1816	0.63	I Q V				
5+50	0.1860	0.64	I Q V				
5+55	0.1905	0.65	I Q V				
6+ 0	0.1950	0.65	I Q V				
6+ 5	0.1995	0.66	I Q V				
6+10	0.2042	0.69	I Q V				
6+15	0.2091	0.71	I Q V				
6+20	0.2141	0.72	I Q V				
6+25	0.2192	0.73	I Q V				
6+30	0.2242	0.73	I Q V				
6+35	0.2293	0.74	I Q V				
6+40	0.2346	0.77	I Q V				
6+45	0.2401	0.80	I Q V				

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

6+50	0.2457	0.81	Q	V					
6+55	0.2513	0.81	Q	V					
7+ 0	0.2569	0.82	Q	V					
7+ 5	0.2626	0.82	Q	V					
7+10	0.2682	0.82	Q	V					
7+15	0.2739	0.83	Q	V					
7+20	0.2797	0.83	Q	V					
7+25	0.2856	0.86	Q	V					
7+30	0.2916	0.88	Q	V					
7+35	0.2978	0.90	Q	V					
7+40	0.3042	0.93	Q	V					
7+45	0.3108	0.96	Q	V					
7+50	0.3175	0.97	Q	V					
7+55	0.3244	1.01	Q	V					
8+ 0	0.3316	1.03	Q	V					
8+ 5	0.3389	1.06	Q	V					
8+10	0.3466	1.12	Q	V					
8+15	0.3546	1.17	Q	V					
8+20	0.3628	1.19	Q	V					
8+25	0.3711	1.21	Q	V					
8+30	0.3795	1.22	Q	V					
8+35	0.3880	1.23	Q	V					
8+40	0.3967	1.26	Q	V					
8+45	0.4055	1.29	Q	V					
8+50	0.4145	1.31	Q	V					
8+55	0.4238	1.34	Q	V					
9+ 0	0.4332	1.37	Q	V					
9+ 5	0.4428	1.39	Q	V					
9+10	0.4528	1.45	Q	V					
9+15	0.4631	1.50	Q	V					
9+20	0.4737	1.53	Q	V					
9+25	0.4845	1.57	Q	V					
9+30	0.4955	1.60	Q	V					
9+35	0.5067	1.63	Q	V					
9+40	0.5182	1.66	Q	V					
9+45	0.5298	1.69	Q	V					
9+50	0.5416	1.71	Q	V					
9+55	0.5536	1.75	Q	V					
10+ 0	0.5659	1.78	Q	V					
10+ 5	0.5780	1.75	Q	V					
10+10	0.5889	1.59	Q	V					
10+15	0.5988	1.44	Q	V					
10+20	0.6083	1.37	Q	V					
10+25	0.6175	1.34	Q	V					
10+30	0.6265	1.31	Q	V					
10+35	0.6357	1.33	Q	V					
10+40	0.6455	1.43	Q	V					
10+45	0.6562	1.54	Q	V					
10+50	0.6671	1.58	Q	V					
10+55	0.6781	1.60	Q	V					
11+ 0	0.6893	1.62	Q	V					
11+ 5	0.7004	1.62	Q	V					
11+10	0.7115	1.60	Q	V					
11+15	0.7224	1.58	Q	V					
11+20	0.7333	1.58	Q	V					
11+25	0.7442	1.58	Q	V					
11+30	0.7550	1.58	Q	V					
11+35	0.7658	1.57	Q	V					
11+40	0.7763	1.52	Q	V					
11+45	0.7865	1.48	Q	V					
11+50	0.7965	1.46	Q	V					
11+55	0.8067	1.47	Q	V					
12+ 0	0.8169	1.49	Q	V					

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

12+ 5	0.8275	1.53	Q	V
12+10	0.8392	1.70	Q	V
12+15	0.8521	1.87	Q	V
12+20	0.8654	1.94	Q	V
12+25	0.8792	2.00	Q	V
12+30	0.8934	2.05	Q	V
12+35	0.9078	2.09	Q	V
12+40	0.9226	2.16	Q	V
12+45	0.9379	2.22	Q	V
12+50	0.9535	2.26	Q	V
12+55	0.9694	2.30	Q	V
13+ 0	0.9855	2.34	Q	V
13+ 5	1.0019	2.39	Q	V
13+10	1.0193	2.52	Q	V
13+15	1.0376	2.65	Q	V
13+20	1.0562	2.71	Q	V
13+25	1.0751	2.74	Q	V
13+30	1.0941	2.76	Q	V
13+35	1.1128	2.71	Q	V
13+40	1.1298	2.46	Q	V
13+45	1.1450	2.21	Q	V
13+50	1.1595	2.11	Q	V
13+55	1.1737	2.06	Q	V
14+ 0	1.1876	2.02	Q	V
14+ 5	1.2014	2.02	Q	V
14+10	1.2159	2.09	Q	V
14+15	1.2308	2.17	Q	V
14+20	1.2459	2.19	Q	V
14+25	1.2609	2.18	Q	V
14+30	1.2758	2.16	Q	V
14+35	1.2907	2.16	Q	V
14+40	1.3056	2.16	Q	V
14+45	1.3204	2.15	Q	V
14+50	1.3352	2.15	Q	V
14+55	1.3498	2.13	Q	V
15+ 0	1.3643	2.10	Q	V
15+ 5	1.3787	2.09	Q	V
15+10	1.3929	2.06	Q	V
15+15	1.4069	2.03	Q	V
15+20	1.4207	2.02	Q	V
15+25	1.4344	1.98	Q	V
15+30	1.4479	1.95	Q	V
15+35	1.4611	1.92	Q	V
15+40	1.4736	1.81	Q	V
15+45	1.4854	1.71	Q	V
15+50	1.4968	1.67	Q	V
15+55	1.5082	1.64	Q	V
16+ 0	1.5194	1.63	Q	V
16+ 5	1.5299	1.53	Q	V
16+10	1.5379	1.16	Q	V
16+15	1.5433	0.80	Q	V
16+20	1.5478	0.64	Q	V
16+25	1.5516	0.56	Q	V
16+30	1.5551	0.50	Q	V
16+35	1.5582	0.45	Q	V
16+40	1.5609	0.40	Q	V
16+45	1.5633	0.35	Q	V
16+50	1.5655	0.32	Q	V
16+55	1.5675	0.30	Q	V
17+ 0	1.5695	0.28	Q	V
17+ 5	1.5715	0.28	Q	V
17+10	1.5737	0.32	Q	V
17+15	1.5762	0.36	Q	V

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

17+20	1.5788	0.38	Q				V	
17+25	1.5815	0.39	Q				V	
17+30	1.5842	0.40	Q				V	
17+35	1.5869	0.40	Q				V	
17+40	1.5897	0.40	Q				V	
17+45	1.5925	0.41	Q				V	
17+50	1.5953	0.40	Q				V	
17+55	1.5979	0.38	Q				V	
18+ 0	1.6004	0.36	Q				V	
18+ 5	1.6028	0.35	Q				V	
18+10	1.6052	0.35	Q				V	
18+15	1.6075	0.34	Q				V	
18+20	1.6099	0.34	Q				V	
18+25	1.6122	0.34	Q				V	
18+30	1.6145	0.34	Q				V	
18+35	1.6168	0.33	Q				V	
18+40	1.6189	0.30	Q				V	
18+45	1.6208	0.28	Q				V	
18+50	1.6226	0.26	Q				V	
18+55	1.6242	0.23	Q				V	
19+ 0	1.6257	0.21	Q				V	
19+ 5	1.6270	0.20	Q				V	
19+10	1.6285	0.22	Q				V	
19+15	1.6301	0.23	Q				V	
19+20	1.6318	0.25	Q				V	
19+25	1.6337	0.27	Q				V	
19+30	1.6358	0.30	Q				V	
19+35	1.6379	0.30	Q				V	
19+40	1.6398	0.28	Q				V	
19+45	1.6416	0.26	Q				V	
19+50	1.6434	0.25	Q				V	
19+55	1.6449	0.23	Q				V	
20+ 0	1.6463	0.20	Q				V	
20+ 5	1.6477	0.20	Q				V	
20+10	1.6491	0.21	Q				V	
20+15	1.6507	0.23	Q				V	
20+20	1.6524	0.24	Q				V	
20+25	1.6541	0.24	Q				V	
20+30	1.6557	0.24	Q				V	
20+35	1.6574	0.25	Q				V	
20+40	1.6591	0.25	Q				V	
20+45	1.6608	0.25	Q				V	
20+50	1.6625	0.24	Q				V	
20+55	1.6640	0.22	Q				V	
21+ 0	1.6653	0.19	Q				V	
21+ 5	1.6666	0.19	Q				V	
21+10	1.6681	0.21	Q				V	
21+15	1.6697	0.23	Q				V	
21+20	1.6712	0.23	Q				V	
21+25	1.6727	0.21	Q				V	
21+30	1.6740	0.19	Q				V	
21+35	1.6753	0.19	Q				V	
21+40	1.6767	0.21	Q				V	
21+45	1.6783	0.23	Q				V	
21+50	1.6799	0.23	Q				V	
21+55	1.6813	0.21	Q				V	
22+ 0	1.6826	0.19	Q				V	
22+ 5	1.6839	0.19	Q				V	
22+10	1.6853	0.21	Q				V	
22+15	1.6869	0.23	Q				V	
22+20	1.6884	0.23	Q				V	
22+25	1.6899	0.21	Q				V	
22+30	1.6912	0.19	Q				V	

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

22+35	1.6924	0.18	Q				V
22+40	1.6936	0.18	Q				V
22+45	1.6948	0.17	Q				V
22+50	1.6960	0.17	Q				V
22+55	1.6972	0.17	Q				V
23+ 0	1.6983	0.17	Q				V
23+ 5	1.6995	0.17	Q				V
23+10	1.7007	0.17	Q				V
23+15	1.7018	0.17	Q				V
23+20	1.7030	0.17	Q				V
23+25	1.7041	0.17	Q				V
23+30	1.7053	0.17	Q				V
23+35	1.7064	0.17	Q				V
23+40	1.7075	0.17	Q				V
23+45	1.7087	0.17	Q				V
23+50	1.7098	0.17	Q				V
23+55	1.7110	0.17	Q				V
24+ 0	1.7121	0.17	Q				V
24+ 5	1.7132	0.15	Q				V
24+10	1.7139	0.11	Q				V
24+15	1.7143	0.06	Q				V
24+20	1.7146	0.04	Q				V
24+25	1.7148	0.03	Q				V
24+30	1.7149	0.02	Q				V
24+35	1.7150	0.02	Q				V
24+40	1.7151	0.01	Q				V
24+45	1.7152	0.01	Q				V
24+50	1.7152	0.01	Q				V
24+55	1.7153	0.00	Q				V
25+ 0	1.7153	0.00	Q				V
25+ 5	1.7153	0.00	Q				V
25+10	1.7153	0.00	Q				V

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx5exh15.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Existing Condition  
 5-year 1-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.035  
 Lag time = 0.155 Hr.  
 Lag time = 9.31 Min.  
 25% of lag time = 2.33 Min.  
 40% of lag time = 3.72 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 1 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 5.00  
 Area Averaged 2-Year Rainfall = 0.528 (In)  
 Area Averaged 100-Year Rainfall = 1.590 (In)

Point rain (area averaged) = 0.777 (In)



# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 0.776(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
Sum (F) =						0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435

Minimum soil loss rate ((In/Hr)) = 0.217

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.900

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max   Low	Effective (In/Hr)
1	0.08	4.40	( 0.435) 0.369	0.041
2	0.17	4.50	( 0.435) 0.377	0.042
3	0.25	5.40	0.435 ( 0.453)	0.068
4	0.33	5.40	0.435 ( 0.453)	0.068
5	0.42	5.70	0.435 ( 0.478)	0.096
6	0.50	6.40	0.435 ( 0.536)	0.161
7	0.58	7.90	0.435 ( 0.662)	0.301
8	0.67	9.10	0.435 ( 0.763)	0.413
9	0.75	12.80	0.435 ( 1.073)	0.758
10	0.83	25.60	0.435 ( 2.146)	1.950

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

11 0.92 7.90 0.736 0.435 ( 0.662) 0.301  
 12 1.00 4.90 0.456 ( 0.435) 0.411 0.046

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.2

Flood volume = Effective rainfall 0.35(In)  
 times area 91.5(Ac.)/[ (In)/(Ft.) ] = 2.7 (Ac.Ft)  
 Total soil loss = 0.42(In)  
 Total soil loss = 3.220(Ac.Ft)  
 Total rainfall = 0.78(In)  
 Flood volume = 117505.7 Cubic Feet  
 Total soil loss = 140272.8 Cubic Feet

Peak flow rate of this hydrograph = 81.829(CFS)

+++++

1 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	22.5	45.0	67.5	90.0
0+ 5	0.0018	0.26	Q				
0+10	0.0112	1.37	Q				
0+15	0.0293	2.63	VQ				
0+20	0.0556	3.81	VQ				
0+25	0.0896	4.93	VQ				
0+30	0.1348	6.56	VQ				
0+35	0.2051	10.22	VQ				
0+40	0.3215	16.90	V Q				
0+45	0.5058	26.76	V Q				
0+50	0.8407	48.64	V Q				
0+55	1.4043	81.83	V Q				
1+ 0	1.9017	72.22	V Q				
1+ 5	2.1642	38.13	V Q				
1+10	2.3140	21.75	V Q				
1+15	2.4140	14.52	V Q				
1+20	2.4861	10.46	V Q				
1+25	2.5396	7.77	V Q				
1+30	2.5803	5.91	V Q				
1+35	2.6133	4.79	V Q				
1+40	2.6387	3.69	V Q				
1+45	2.6585	2.88	V Q				
1+50	2.6734	2.16	V Q				
1+55	2.6852	1.72	V Q				
2+ 0	2.6957	1.53	V Q				
2+ 5	2.6973	0.23	V Q				
2+10	2.6976	0.03	V Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx5exh35.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
5-year 3-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 3 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 5.00  
Area Averaged 2-Year Rainfall = 0.911 (In)  
Area Averaged 100-Year Rainfall = 2.330 (In)

Point rain (area averaged) = 1.243 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 1.243(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
						Sum (F) = 0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435  
 Minimum soil loss rate ((In/Hr)) = 0.217  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

-----  
 U n i t H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
-----			
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.194	( 0.435)	0.174	0.019
2	0.17	1.30	0.194	( 0.435)	0.174	0.019
3	0.25	1.10	0.164	( 0.435)	0.148	0.016
4	0.33	1.50	0.224	( 0.435)	0.201	0.022
5	0.42	1.50	0.224	( 0.435)	0.201	0.022
6	0.50	1.80	0.268	( 0.435)	0.242	0.027
7	0.58	1.50	0.224	( 0.435)	0.201	0.022
8	0.67	1.80	0.268	( 0.435)	0.242	0.027
9	0.75	1.80	0.268	( 0.435)	0.242	0.027
10	0.83	1.50	0.224	( 0.435)	0.201	0.022
11	0.92	1.60	0.239	( 0.435)	0.215	0.024
12	1.00	1.80	0.268	( 0.435)	0.242	0.027

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

13	1.08	2.20	0.328	( 0.435)	0.295	0.033
14	1.17	2.20	0.328	( 0.435)	0.295	0.033
15	1.25	2.20	0.328	( 0.435)	0.295	0.033
16	1.33	2.00	0.298	( 0.435)	0.268	0.030
17	1.42	2.60	0.388	( 0.435)	0.349	0.039
18	1.50	2.70	0.403	( 0.435)	0.362	0.040
19	1.58	2.40	0.358	( 0.435)	0.322	0.036
20	1.67	2.70	0.403	( 0.435)	0.362	0.040
21	1.75	3.30	0.492	0.435 ( 0.443)		0.058
22	1.83	3.10	0.462	( 0.435)	0.416	0.046
23	1.92	2.90	0.433	( 0.435)	0.389	0.043
24	2.00	3.00	0.447	( 0.435)	0.403	0.045
25	2.08	3.10	0.462	( 0.435)	0.416	0.046
26	2.17	4.20	0.626	0.435 ( 0.564)		0.192
27	2.25	5.00	0.746	0.435 ( 0.671)		0.311
28	2.33	3.50	0.522	0.435 ( 0.470)		0.087
29	2.42	6.80	1.014	0.435 ( 0.913)		0.580
30	2.50	7.30	1.089	0.435 ( 0.980)		0.654
31	2.58	8.20	1.223	0.435 ( 1.101)		0.788
32	2.67	5.90	0.880	0.435 ( 0.792)		0.445
33	2.75	2.00	0.298	( 0.435)	0.268	0.030
34	2.83	1.80	0.268	( 0.435)	0.242	0.027
35	2.92	1.80	0.268	( 0.435)	0.242	0.027
36	3.00	0.60	0.089	( 0.435)	0.081	0.009

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.9

Flood volume = Effective rainfall 0.33 (In)  
times area 91.5 (Ac.) / [(In) / (Ft.)] = 2.5 (Ac.Ft)  
Total soil loss = 0.91 (In)  
Total soil loss = 6.968 (Ac.Ft)  
Total rainfall = 1.24 (In)  
Flood volume = 109269.6 Cubic Feet  
Total soil loss = 303542.3 Cubic Feet

-----  
Peak flow rate of this hydrograph = 50.219 (CFS)  
-----

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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time (h+m)	Volume Ac.Ft	Q (CFS)	0	15.0	30.0	45.0	60.0
0+ 5	0.0008	0.12	Q				
0+10	0.0053	0.65	Q				
0+15	0.0131	1.13	Q				
0+20	0.0220	1.30	Q				
0+25	0.0324	1.50	Q				
0+30	0.0443	1.73	VQ				
0+35	0.0576	1.93	VQ				
0+40	0.0715	2.02	IQ				
0+45	0.0861	2.12	IQ				
0+50	0.1014	2.22	IQ				
0+55	0.1164	2.18	IQ				
1+ 0	0.1313	2.17	IQV				
1+ 5	0.1472	2.31	IQV				
1+10	0.1648	2.56	IQV				
1+15	0.1839	2.76	IQV				
1+20	0.2034	2.83	IQ V				
1+25	0.2230	2.85	IQ V				
1+30	0.2441	3.06	IQV				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+35	0.2668	3.30	Q V				
1+40	0.2899	3.35	Q V				
1+45	0.3142	3.53	Q V				
1+50	0.3420	4.04	Q V				
1+55	0.3711	4.22	Q V				
2+ 0	0.3991	4.08	Q V				
2+ 5	0.4271	4.05	Q V				
2+10	0.4618	5.04	Q V				
2+15	0.5292	9.78	Q V				
2+20	0.6353	15.41	Q				
2+25	0.7537	17.20	QV				
2+30	0.9416	27.28	V Q				
2+35	1.2301	41.89	V Q				
2+40	1.5759	50.22	V Q				
2+45	1.8883	45.36	Q				
2+50	2.0878	28.96	Q				
2+55	2.2036	16.81	Q				
3+ 0	2.2853	11.87	Q				
3+ 5	2.3451	8.68	Q				
3+10	2.3883	6.27	Q				
3+15	2.4202	4.64	Q				
3+20	2.4454	3.65	Q				
3+25	2.4649	2.84	Q				
3+30	2.4790	2.05	Q				
3+35	2.4908	1.71	Q				
3+40	2.4992	1.22	Q				
3+45	2.5051	0.85	Q				
3+50	2.5076	0.37	Q				
3+55	2.5080	0.06	Q				
4+ 0	2.5083	0.04	Q				
4+ 5	2.5084	0.02	Q				
4+10	2.5085	0.01	Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx5exh65.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
5-year 6-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 5.00  
Area Averaged 2-Year Rainfall = 1.290 (In)  
Area Averaged 100-Year Rainfall = 3.170 (In)

Point rain (area averaged) = 1.730 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 1.730 (In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
						Sum (F) = 0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435  
 Minimum soil loss rate ((In/Hr)) = 0.217  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.900

-----  
 U n i t   H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.104	( 0.435)	0.093	0.010
2	0.17	0.60	0.125	( 0.435)	0.112	0.012
3	0.25	0.60	0.125	( 0.435)	0.112	0.012
4	0.33	0.60	0.125	( 0.435)	0.112	0.012
5	0.42	0.60	0.125	( 0.435)	0.112	0.012
6	0.50	0.70	0.145	( 0.435)	0.131	0.015
7	0.58	0.70	0.145	( 0.435)	0.131	0.015
8	0.67	0.70	0.145	( 0.435)	0.131	0.015
9	0.75	0.70	0.145	( 0.435)	0.131	0.015
10	0.83	0.70	0.145	( 0.435)	0.131	0.015
11	0.92	0.70	0.145	( 0.435)	0.131	0.015
12	1.00	0.80	0.166	( 0.435)	0.149	0.017



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

13	1.08	0.80	0.166	( 0.435)	0.149	0.017
14	1.17	0.80	0.166	( 0.435)	0.149	0.017
15	1.25	0.80	0.166	( 0.435)	0.149	0.017
16	1.33	0.80	0.166	( 0.435)	0.149	0.017
17	1.42	0.80	0.166	( 0.435)	0.149	0.017
18	1.50	0.80	0.166	( 0.435)	0.149	0.017
19	1.58	0.80	0.166	( 0.435)	0.149	0.017
20	1.67	0.80	0.166	( 0.435)	0.149	0.017
21	1.75	0.80	0.166	( 0.435)	0.149	0.017
22	1.83	0.80	0.166	( 0.435)	0.149	0.017
23	1.92	0.80	0.166	( 0.435)	0.149	0.017
24	2.00	0.90	0.187	( 0.435)	0.168	0.019
25	2.08	0.80	0.166	( 0.435)	0.149	0.017
26	2.17	0.90	0.187	( 0.435)	0.168	0.019
27	2.25	0.90	0.187	( 0.435)	0.168	0.019
28	2.33	0.90	0.187	( 0.435)	0.168	0.019
29	2.42	0.90	0.187	( 0.435)	0.168	0.019
30	2.50	0.90	0.187	( 0.435)	0.168	0.019
31	2.58	0.90	0.187	( 0.435)	0.168	0.019
32	2.67	0.90	0.187	( 0.435)	0.168	0.019
33	2.75	1.00	0.208	( 0.435)	0.187	0.021
34	2.83	1.00	0.208	( 0.435)	0.187	0.021
35	2.92	1.00	0.208	( 0.435)	0.187	0.021
36	3.00	1.00	0.208	( 0.435)	0.187	0.021
37	3.08	1.00	0.208	( 0.435)	0.187	0.021
38	3.17	1.10	0.228	( 0.435)	0.205	0.023
39	3.25	1.10	0.228	( 0.435)	0.205	0.023
40	3.33	1.10	0.228	( 0.435)	0.205	0.023
41	3.42	1.20	0.249	( 0.435)	0.224	0.025
42	3.50	1.30	0.270	( 0.435)	0.243	0.027
43	3.58	1.40	0.291	( 0.435)	0.262	0.029
44	3.67	1.40	0.291	( 0.435)	0.262	0.029
45	3.75	1.50	0.311	( 0.435)	0.280	0.031
46	3.83	1.50	0.311	( 0.435)	0.280	0.031
47	3.92	1.60	0.332	( 0.435)	0.299	0.033
48	4.00	1.60	0.332	( 0.435)	0.299	0.033
49	4.08	1.70	0.353	( 0.435)	0.318	0.035
50	4.17	1.80	0.374	( 0.435)	0.336	0.037
51	4.25	1.90	0.394	( 0.435)	0.355	0.039
52	4.33	2.00	0.415	( 0.435)	0.374	0.042
53	4.42	2.10	0.436	( 0.435)	0.392	0.044
54	4.50	2.10	0.436	( 0.435)	0.392	0.044
55	4.58	2.20	0.457	( 0.435)	0.411	0.046
56	4.67	2.30	0.477	( 0.435)	0.430	0.048
57	4.75	2.40	0.498	0.435	( 0.448)	0.064
58	4.83	2.40	0.498	0.435	( 0.448)	0.064
59	4.92	2.50	0.519	0.435	( 0.467)	0.084
60	5.00	2.60	0.540	0.435	( 0.486)	0.105
61	5.08	3.10	0.643	0.435	( 0.579)	0.209
62	5.17	3.60	0.747	0.435	( 0.673)	0.313
63	5.25	3.90	0.810	0.435	( 0.729)	0.375
64	5.33	4.20	0.872	0.435	( 0.785)	0.437
65	5.42	4.70	0.976	0.435	( 0.878)	0.541
66	5.50	5.60	1.162	0.435	( 1.046)	0.728
67	5.58	1.90	0.394	( 0.435)	0.355	0.039
68	5.67	0.90	0.187	( 0.435)	0.168	0.019
69	5.75	0.60	0.125	( 0.435)	0.112	0.012
70	5.83	0.50	0.104	( 0.435)	0.093	0.010
71	5.92	0.30	0.062	( 0.435)	0.056	0.006
72	6.00	0.20	0.042	( 0.435)	0.037	0.004

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.3

Flood volume = Effective rainfall 0.36(In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

times area            91.5(Ac.)/[ (In)/(Ft.) ] =            2.7(Ac.Ft)  
 Total soil loss =        1.37(In)  
 Total soil loss =        10.477(Ac.Ft)  
 Total rainfall =         1.73(In)  
 Flood volume =         118150.4 Cubic Feet  
 Total soil loss =        456393.2 Cubic Feet

Peak flow rate of this hydrograph =        43.544(CFS)

++++++  
 6 - H O U R        S T O R M  
 R u n o f f        H y d r o g r a p h

Hydrograph in    5    Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0005	0.07	Q				
0+10	0.0029	0.36	Q				
0+15	0.0076	0.69	Q				
0+20	0.0135	0.85	Q				
0+25	0.0200	0.94	Q				
0+30	0.0269	1.01	Q				
0+35	0.0345	1.10	Q				
0+40	0.0426	1.18	Q				
0+45	0.0511	1.23	Q				
0+50	0.0597	1.26	VQ				
0+55	0.0686	1.28	Q				
1+ 0	0.0776	1.31	Q				
1+ 5	0.0871	1.38	Q				
1+10	0.0970	1.44	Q				
1+15	0.1072	1.48	Q				
1+20	0.1175	1.49	Q				
1+25	0.1279	1.50	Q				
1+30	0.1383	1.51	QV				
1+35	0.1487	1.52	QV				
1+40	0.1592	1.52	QV				
1+45	0.1697	1.52	QV				
1+50	0.1802	1.53	QV				
1+55	0.1907	1.53	QV				
2+ 0	0.2014	1.54	QV				
2+ 5	0.2123	1.59	Q V				
2+10	0.2233	1.60	Q V				
2+15	0.2345	1.62	Q V				
2+20	0.2460	1.67	Q V				
2+25	0.2576	1.69	Q V				
2+30	0.2693	1.70	Q V				
2+35	0.2810	1.70	Q V				
2+40	0.2928	1.71	Q V				
2+45	0.3046	1.73	Q V				
2+50	0.3169	1.78	Q V				
2+55	0.3296	1.84	Q V				
3+ 0	0.3425	1.87	Q V				
3+ 5	0.3554	1.88	Q V				
3+10	0.3685	1.90	Q V				
3+15	0.3820	1.96	Q V				
3+20	0.3960	2.02	Q V				
3+25	0.4102	2.06	Q V				
3+30	0.4250	2.15	Q V				
3+35	0.4407	2.28	Q V				
3+40	0.4574	2.42	Q V				
3+45	0.4748	2.53	Q V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

3+50	0.4930	2.63	Q	V					
3+55	0.5118	2.73	Q	V					
4+ 0	0.5313	2.83	Q	V					
4+ 5	0.5515	2.93	Q	V					
4+10	0.5724	3.04	Q	V					
4+15	0.5944	3.19	Q	V					
4+20	0.6175	3.36	Q	V					
4+25	0.6419	3.53	Q	V					
4+30	0.6673	3.70	Q	V					
4+35	0.6937	3.82	Q	V					
4+40	0.7209	3.95	Q	V					
4+45	0.7499	4.21	Q	V					
4+50	0.7825	4.74	Q	V					
4+55	0.8193	5.34	Q	V					
5+ 0	0.8623	6.24	Q	V					
5+ 5	0.9182	8.12	Q	V					
5+10	1.0038	12.43	Q	V					
5+15	1.1328	18.74	Q	V					
5+20	1.3043	24.90	Q	V					
5+25	1.5164	30.79	Q	V					
5+30	1.7799	38.26	Q	V					
5+35	2.0798	43.54	Q	V					
5+40	2.3010	32.11	Q	V					
5+45	2.4187	17.09	Q	V					
5+50	2.4954	11.14	Q	V					
5+55	2.5516	8.16	Q	V					
6+ 0	2.5938	6.13	Q	V					
6+ 5	2.6257	4.64	Q	V					
6+10	2.6499	3.51	Q	V					
6+15	2.6689	2.75	Q	V					
6+20	2.6832	2.08	Q	V					
6+25	2.6940	1.56	Q	V					
6+30	2.7018	1.13	Q	V					
6+35	2.7074	0.82	Q	V					
6+40	2.7114	0.57	Q	V					
6+45	2.7118	0.07	Q	V					
6+50	2.7121	0.04	Q	V					
6+55	2.7122	0.02	Q	V					
7+ 0	2.7123	0.01	Q	V					
7+ 5	2.7123	0.01	Q	V					
7+10	2.7124	0.00	Q	V					

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx5exh245.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
5-year 24-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 5.00  
Area Averaged 2-Year Rainfall = 2.250 (In)  
Area Averaged 100-Year Rainfall = 5.870 (In)

Point rain (area averaged) = 3.098 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 3.097(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	63.3	0.435	0.000	0.435	1.000	0.435
						Sum (F) = 0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435  
 Minimum soil loss rate ((In/Hr)) = 0.217  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.900

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 U n i t H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
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Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.025	( 0.770)	0.022	0.002
2	0.17	0.07	0.025	( 0.767)	0.022	0.002
3	0.25	0.07	0.025	( 0.764)	0.022	0.002
4	0.33	0.10	0.037	( 0.761)	0.033	0.004
5	0.42	0.10	0.037	( 0.759)	0.033	0.004
6	0.50	0.10	0.037	( 0.756)	0.033	0.004
7	0.58	0.10	0.037	( 0.753)	0.033	0.004
8	0.67	0.10	0.037	( 0.750)	0.033	0.004
9	0.75	0.10	0.037	( 0.747)	0.033	0.004
10	0.83	0.13	0.050	( 0.744)	0.045	0.005
11	0.92	0.13	0.050	( 0.741)	0.045	0.005
12	1.00	0.13	0.050	( 0.738)	0.045	0.005

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

13	1.08	0.10	0.037	( 0.735)	0.033	0.004
14	1.17	0.10	0.037	( 0.732)	0.033	0.004
15	1.25	0.10	0.037	( 0.729)	0.033	0.004
16	1.33	0.10	0.037	( 0.726)	0.033	0.004
17	1.42	0.10	0.037	( 0.723)	0.033	0.004
18	1.50	0.10	0.037	( 0.721)	0.033	0.004
19	1.58	0.10	0.037	( 0.718)	0.033	0.004
20	1.67	0.10	0.037	( 0.715)	0.033	0.004
21	1.75	0.10	0.037	( 0.712)	0.033	0.004
22	1.83	0.13	0.050	( 0.709)	0.045	0.005
23	1.92	0.13	0.050	( 0.706)	0.045	0.005
24	2.00	0.13	0.050	( 0.703)	0.045	0.005
25	2.08	0.13	0.050	( 0.700)	0.045	0.005
26	2.17	0.13	0.050	( 0.698)	0.045	0.005
27	2.25	0.13	0.050	( 0.695)	0.045	0.005
28	2.33	0.13	0.050	( 0.692)	0.045	0.005
29	2.42	0.13	0.050	( 0.689)	0.045	0.005
30	2.50	0.13	0.050	( 0.686)	0.045	0.005
31	2.58	0.17	0.062	( 0.684)	0.056	0.006
32	2.67	0.17	0.062	( 0.681)	0.056	0.006
33	2.75	0.17	0.062	( 0.678)	0.056	0.006
34	2.83	0.17	0.062	( 0.675)	0.056	0.006
35	2.92	0.17	0.062	( 0.672)	0.056	0.006
36	3.00	0.17	0.062	( 0.670)	0.056	0.006
37	3.08	0.17	0.062	( 0.667)	0.056	0.006
38	3.17	0.17	0.062	( 0.664)	0.056	0.006
39	3.25	0.17	0.062	( 0.661)	0.056	0.006
40	3.33	0.17	0.062	( 0.659)	0.056	0.006
41	3.42	0.17	0.062	( 0.656)	0.056	0.006
42	3.50	0.17	0.062	( 0.653)	0.056	0.006
43	3.58	0.17	0.062	( 0.650)	0.056	0.006
44	3.67	0.17	0.062	( 0.648)	0.056	0.006
45	3.75	0.17	0.062	( 0.645)	0.056	0.006
46	3.83	0.20	0.074	( 0.642)	0.067	0.007
47	3.92	0.20	0.074	( 0.639)	0.067	0.007
48	4.00	0.20	0.074	( 0.637)	0.067	0.007
49	4.08	0.20	0.074	( 0.634)	0.067	0.007
50	4.17	0.20	0.074	( 0.631)	0.067	0.007
51	4.25	0.20	0.074	( 0.629)	0.067	0.007
52	4.33	0.23	0.087	( 0.626)	0.078	0.009
53	4.42	0.23	0.087	( 0.623)	0.078	0.009
54	4.50	0.23	0.087	( 0.621)	0.078	0.009
55	4.58	0.23	0.087	( 0.618)	0.078	0.009
56	4.67	0.23	0.087	( 0.615)	0.078	0.009
57	4.75	0.23	0.087	( 0.613)	0.078	0.009
58	4.83	0.27	0.099	( 0.610)	0.089	0.010
59	4.92	0.27	0.099	( 0.607)	0.089	0.010
60	5.00	0.27	0.099	( 0.605)	0.089	0.010
61	5.08	0.20	0.074	( 0.602)	0.067	0.007
62	5.17	0.20	0.074	( 0.599)	0.067	0.007
63	5.25	0.20	0.074	( 0.597)	0.067	0.007
64	5.33	0.23	0.087	( 0.594)	0.078	0.009
65	5.42	0.23	0.087	( 0.592)	0.078	0.009
66	5.50	0.23	0.087	( 0.589)	0.078	0.009
67	5.58	0.27	0.099	( 0.586)	0.089	0.010
68	5.67	0.27	0.099	( 0.584)	0.089	0.010
69	5.75	0.27	0.099	( 0.581)	0.089	0.010
70	5.83	0.27	0.099	( 0.579)	0.089	0.010
71	5.92	0.27	0.099	( 0.576)	0.089	0.010
72	6.00	0.27	0.099	( 0.574)	0.089	0.010
73	6.08	0.30	0.112	( 0.571)	0.100	0.011
74	6.17	0.30	0.112	( 0.569)	0.100	0.011
75	6.25	0.30	0.112	( 0.566)	0.100	0.011

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

76	6.33	0.30	0.112	( 0.563)	0.100	0.011
77	6.42	0.30	0.112	( 0.561)	0.100	0.011
78	6.50	0.30	0.112	( 0.558)	0.100	0.011
79	6.58	0.33	0.124	( 0.556)	0.112	0.012
80	6.67	0.33	0.124	( 0.553)	0.112	0.012
81	6.75	0.33	0.124	( 0.551)	0.112	0.012
82	6.83	0.33	0.124	( 0.548)	0.112	0.012
83	6.92	0.33	0.124	( 0.546)	0.112	0.012
84	7.00	0.33	0.124	( 0.543)	0.112	0.012
85	7.08	0.33	0.124	( 0.541)	0.112	0.012
86	7.17	0.33	0.124	( 0.539)	0.112	0.012
87	7.25	0.33	0.124	( 0.536)	0.112	0.012
88	7.33	0.37	0.136	( 0.534)	0.123	0.014
89	7.42	0.37	0.136	( 0.531)	0.123	0.014
90	7.50	0.37	0.136	( 0.529)	0.123	0.014
91	7.58	0.40	0.149	( 0.526)	0.134	0.015
92	7.67	0.40	0.149	( 0.524)	0.134	0.015
93	7.75	0.40	0.149	( 0.522)	0.134	0.015
94	7.83	0.43	0.161	( 0.519)	0.145	0.016
95	7.92	0.43	0.161	( 0.517)	0.145	0.016
96	8.00	0.43	0.161	( 0.514)	0.145	0.016
97	8.08	0.50	0.186	( 0.512)	0.167	0.019
98	8.17	0.50	0.186	( 0.510)	0.167	0.019
99	8.25	0.50	0.186	( 0.507)	0.167	0.019
100	8.33	0.50	0.186	( 0.505)	0.167	0.019
101	8.42	0.50	0.186	( 0.502)	0.167	0.019
102	8.50	0.50	0.186	( 0.500)	0.167	0.019
103	8.58	0.53	0.198	( 0.498)	0.178	0.020
104	8.67	0.53	0.198	( 0.495)	0.178	0.020
105	8.75	0.53	0.198	( 0.493)	0.178	0.020
106	8.83	0.57	0.211	( 0.491)	0.190	0.021
107	8.92	0.57	0.211	( 0.488)	0.190	0.021
108	9.00	0.57	0.211	( 0.486)	0.190	0.021
109	9.08	0.63	0.235	( 0.484)	0.212	0.024
110	9.17	0.63	0.235	( 0.481)	0.212	0.024
111	9.25	0.63	0.235	( 0.479)	0.212	0.024
112	9.33	0.67	0.248	( 0.477)	0.223	0.025
113	9.42	0.67	0.248	( 0.475)	0.223	0.025
114	9.50	0.67	0.248	( 0.472)	0.223	0.025
115	9.58	0.70	0.260	( 0.470)	0.234	0.026
116	9.67	0.70	0.260	( 0.468)	0.234	0.026
117	9.75	0.70	0.260	( 0.466)	0.234	0.026
118	9.83	0.73	0.273	( 0.463)	0.245	0.027
119	9.92	0.73	0.273	( 0.461)	0.245	0.027
120	10.00	0.73	0.273	( 0.459)	0.245	0.027
121	10.08	0.50	0.186	( 0.457)	0.167	0.019
122	10.17	0.50	0.186	( 0.454)	0.167	0.019
123	10.25	0.50	0.186	( 0.452)	0.167	0.019
124	10.33	0.50	0.186	( 0.450)	0.167	0.019
125	10.42	0.50	0.186	( 0.448)	0.167	0.019
126	10.50	0.50	0.186	( 0.446)	0.167	0.019
127	10.58	0.67	0.248	( 0.444)	0.223	0.025
128	10.67	0.67	0.248	( 0.441)	0.223	0.025
129	10.75	0.67	0.248	( 0.439)	0.223	0.025
130	10.83	0.67	0.248	( 0.437)	0.223	0.025
131	10.92	0.67	0.248	( 0.435)	0.223	0.025
132	11.00	0.67	0.248	( 0.433)	0.223	0.025
133	11.08	0.63	0.235	( 0.431)	0.212	0.024
134	11.17	0.63	0.235	( 0.429)	0.212	0.024
135	11.25	0.63	0.235	( 0.426)	0.212	0.024
136	11.33	0.63	0.235	( 0.424)	0.212	0.024
137	11.42	0.63	0.235	( 0.422)	0.212	0.024
138	11.50	0.63	0.235	( 0.420)	0.212	0.024

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

139	11.58	0.57	0.211	( 0.418)	0.190	0.021
140	11.67	0.57	0.211	( 0.416)	0.190	0.021
141	11.75	0.57	0.211	( 0.414)	0.190	0.021
142	11.83	0.60	0.223	( 0.412)	0.201	0.022
143	11.92	0.60	0.223	( 0.410)	0.201	0.022
144	12.00	0.60	0.223	( 0.408)	0.201	0.022
145	12.08	0.83	0.310	( 0.406)	0.279	0.031
146	12.17	0.83	0.310	( 0.404)	0.279	0.031
147	12.25	0.83	0.310	( 0.402)	0.279	0.031
148	12.33	0.87	0.322	( 0.400)	0.290	0.032
149	12.42	0.87	0.322	( 0.398)	0.290	0.032
150	12.50	0.87	0.322	( 0.396)	0.290	0.032
151	12.58	0.93	0.347	( 0.394)	0.312	0.035
152	12.67	0.93	0.347	( 0.392)	0.312	0.035
153	12.75	0.93	0.347	( 0.390)	0.312	0.035
154	12.83	0.97	0.359	( 0.388)	0.323	0.036
155	12.92	0.97	0.359	( 0.386)	0.323	0.036
156	13.00	0.97	0.359	( 0.384)	0.323	0.036
157	13.08	1.13	0.421	( 0.382)	0.379	0.042
158	13.17	1.13	0.421	( 0.380)	0.379	0.042
159	13.25	1.13	0.421	0.378	( 0.379)	0.043
160	13.33	1.13	0.421	0.376	( 0.379)	0.045
161	13.42	1.13	0.421	0.374	( 0.379)	0.047
162	13.50	1.13	0.421	0.372	( 0.379)	0.049
163	13.58	0.77	0.285	( 0.370)	0.256	0.028
164	13.67	0.77	0.285	( 0.368)	0.256	0.028
165	13.75	0.77	0.285	( 0.367)	0.256	0.028
166	13.83	0.77	0.285	( 0.365)	0.256	0.028
167	13.92	0.77	0.285	( 0.363)	0.256	0.028
168	14.00	0.77	0.285	( 0.361)	0.256	0.028
169	14.08	0.90	0.335	( 0.359)	0.301	0.033
170	14.17	0.90	0.335	( 0.357)	0.301	0.033
171	14.25	0.90	0.335	( 0.355)	0.301	0.033
172	14.33	0.87	0.322	( 0.354)	0.290	0.032
173	14.42	0.87	0.322	( 0.352)	0.290	0.032
174	14.50	0.87	0.322	( 0.350)	0.290	0.032
175	14.58	0.87	0.322	( 0.348)	0.290	0.032
176	14.67	0.87	0.322	( 0.346)	0.290	0.032
177	14.75	0.87	0.322	( 0.345)	0.290	0.032
178	14.83	0.83	0.310	( 0.343)	0.279	0.031
179	14.92	0.83	0.310	( 0.341)	0.279	0.031
180	15.00	0.83	0.310	( 0.339)	0.279	0.031
181	15.08	0.80	0.297	( 0.338)	0.268	0.030
182	15.17	0.80	0.297	( 0.336)	0.268	0.030
183	15.25	0.80	0.297	( 0.334)	0.268	0.030
184	15.33	0.77	0.285	( 0.333)	0.256	0.028
185	15.42	0.77	0.285	( 0.331)	0.256	0.028
186	15.50	0.77	0.285	( 0.329)	0.256	0.028
187	15.58	0.63	0.235	( 0.327)	0.212	0.024
188	15.67	0.63	0.235	( 0.326)	0.212	0.024
189	15.75	0.63	0.235	( 0.324)	0.212	0.024
190	15.83	0.63	0.235	( 0.322)	0.212	0.024
191	15.92	0.63	0.235	( 0.321)	0.212	0.024
192	16.00	0.63	0.235	( 0.319)	0.212	0.024
193	16.08	0.13	0.050	( 0.317)	0.045	0.005
194	16.17	0.13	0.050	( 0.316)	0.045	0.005
195	16.25	0.13	0.050	( 0.314)	0.045	0.005
196	16.33	0.13	0.050	( 0.313)	0.045	0.005
197	16.42	0.13	0.050	( 0.311)	0.045	0.005
198	16.50	0.13	0.050	( 0.309)	0.045	0.005
199	16.58	0.10	0.037	( 0.308)	0.033	0.004
200	16.67	0.10	0.037	( 0.306)	0.033	0.004
201	16.75	0.10	0.037	( 0.305)	0.033	0.004



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

202	16.83	0.10	0.037	( 0.303)	0.033	0.004
203	16.92	0.10	0.037	( 0.302)	0.033	0.004
204	17.00	0.10	0.037	( 0.300)	0.033	0.004
205	17.08	0.17	0.062	( 0.299)	0.056	0.006
206	17.17	0.17	0.062	( 0.297)	0.056	0.006
207	17.25	0.17	0.062	( 0.296)	0.056	0.006
208	17.33	0.17	0.062	( 0.294)	0.056	0.006
209	17.42	0.17	0.062	( 0.293)	0.056	0.006
210	17.50	0.17	0.062	( 0.291)	0.056	0.006
211	17.58	0.17	0.062	( 0.290)	0.056	0.006
212	17.67	0.17	0.062	( 0.288)	0.056	0.006
213	17.75	0.17	0.062	( 0.287)	0.056	0.006
214	17.83	0.13	0.050	( 0.285)	0.045	0.005
215	17.92	0.13	0.050	( 0.284)	0.045	0.005
216	18.00	0.13	0.050	( 0.283)	0.045	0.005
217	18.08	0.13	0.050	( 0.281)	0.045	0.005
218	18.17	0.13	0.050	( 0.280)	0.045	0.005
219	18.25	0.13	0.050	( 0.279)	0.045	0.005
220	18.33	0.13	0.050	( 0.277)	0.045	0.005
221	18.42	0.13	0.050	( 0.276)	0.045	0.005
222	18.50	0.13	0.050	( 0.274)	0.045	0.005
223	18.58	0.10	0.037	( 0.273)	0.033	0.004
224	18.67	0.10	0.037	( 0.272)	0.033	0.004
225	18.75	0.10	0.037	( 0.271)	0.033	0.004
226	18.83	0.07	0.025	( 0.269)	0.022	0.002
227	18.92	0.07	0.025	( 0.268)	0.022	0.002
228	19.00	0.07	0.025	( 0.267)	0.022	0.002
229	19.08	0.10	0.037	( 0.265)	0.033	0.004
230	19.17	0.10	0.037	( 0.264)	0.033	0.004
231	19.25	0.10	0.037	( 0.263)	0.033	0.004
232	19.33	0.13	0.050	( 0.262)	0.045	0.005
233	19.42	0.13	0.050	( 0.260)	0.045	0.005
234	19.50	0.13	0.050	( 0.259)	0.045	0.005
235	19.58	0.10	0.037	( 0.258)	0.033	0.004
236	19.67	0.10	0.037	( 0.257)	0.033	0.004
237	19.75	0.10	0.037	( 0.256)	0.033	0.004
238	19.83	0.07	0.025	( 0.255)	0.022	0.002
239	19.92	0.07	0.025	( 0.253)	0.022	0.002
240	20.00	0.07	0.025	( 0.252)	0.022	0.002
241	20.08	0.10	0.037	( 0.251)	0.033	0.004
242	20.17	0.10	0.037	( 0.250)	0.033	0.004
243	20.25	0.10	0.037	( 0.249)	0.033	0.004
244	20.33	0.10	0.037	( 0.248)	0.033	0.004
245	20.42	0.10	0.037	( 0.247)	0.033	0.004
246	20.50	0.10	0.037	( 0.246)	0.033	0.004
247	20.58	0.10	0.037	( 0.245)	0.033	0.004
248	20.67	0.10	0.037	( 0.244)	0.033	0.004
249	20.75	0.10	0.037	( 0.243)	0.033	0.004
250	20.83	0.07	0.025	( 0.242)	0.022	0.002
251	20.92	0.07	0.025	( 0.241)	0.022	0.002
252	21.00	0.07	0.025	( 0.240)	0.022	0.002
253	21.08	0.10	0.037	( 0.239)	0.033	0.004
254	21.17	0.10	0.037	( 0.238)	0.033	0.004
255	21.25	0.10	0.037	( 0.237)	0.033	0.004
256	21.33	0.07	0.025	( 0.236)	0.022	0.002
257	21.42	0.07	0.025	( 0.235)	0.022	0.002
258	21.50	0.07	0.025	( 0.234)	0.022	0.002
259	21.58	0.10	0.037	( 0.234)	0.033	0.004
260	21.67	0.10	0.037	( 0.233)	0.033	0.004
261	21.75	0.10	0.037	( 0.232)	0.033	0.004
262	21.83	0.07	0.025	( 0.231)	0.022	0.002
263	21.92	0.07	0.025	( 0.230)	0.022	0.002
264	22.00	0.07	0.025	( 0.229)	0.022	0.002

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

265	22.08	0.10	0.037	( 0.229)	0.033	0.004
266	22.17	0.10	0.037	( 0.228)	0.033	0.004
267	22.25	0.10	0.037	( 0.227)	0.033	0.004
268	22.33	0.07	0.025	( 0.227)	0.022	0.002
269	22.42	0.07	0.025	( 0.226)	0.022	0.002
270	22.50	0.07	0.025	( 0.225)	0.022	0.002
271	22.58	0.07	0.025	( 0.225)	0.022	0.002
272	22.67	0.07	0.025	( 0.224)	0.022	0.002
273	22.75	0.07	0.025	( 0.223)	0.022	0.002
274	22.83	0.07	0.025	( 0.223)	0.022	0.002
275	22.92	0.07	0.025	( 0.222)	0.022	0.002
276	23.00	0.07	0.025	( 0.222)	0.022	0.002
277	23.08	0.07	0.025	( 0.221)	0.022	0.002
278	23.17	0.07	0.025	( 0.221)	0.022	0.002
279	23.25	0.07	0.025	( 0.220)	0.022	0.002
280	23.33	0.07	0.025	( 0.220)	0.022	0.002
281	23.42	0.07	0.025	( 0.219)	0.022	0.002
282	23.50	0.07	0.025	( 0.219)	0.022	0.002
283	23.58	0.07	0.025	( 0.218)	0.022	0.002
284	23.67	0.07	0.025	( 0.218)	0.022	0.002
285	23.75	0.07	0.025	( 0.218)	0.022	0.002
286	23.83	0.07	0.025	( 0.218)	0.022	0.002
287	23.92	0.07	0.025	( 0.217)	0.022	0.002
288	24.00	0.07	0.025	( 0.217)	0.022	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.7

Flood volume = Effective rainfall 0.31 (In)  
 times area 91.5(Ac.)/[ (In)/(Ft.) ] = 2.4 (Ac.Ft)  
 Total soil loss = 2.79 (In)  
 Total soil loss = 21.245 (Ac.Ft)  
 Total rainfall = 3.10 (In)  
 Flood volume = 103322.6 Cubic Feet  
 Total soil loss = 925442.8 Cubic Feet

-----  
 Peak flow rate of this hydrograph = 4.094 (CFS)  
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24 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

-----  
 Hydrograph in 5 Minute intervals ((CFS))  
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Time (h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0007	0.08	Q				
0+15	0.0017	0.15	Q				
0+20	0.0029	0.18	Q				
0+25	0.0045	0.23	Q				
0+30	0.0064	0.27	VQ				
0+35	0.0084	0.29	VQ				
0+40	0.0105	0.31	VQ				
0+45	0.0127	0.32	VQ				
0+50	0.0150	0.33	VQ				
0+55	0.0175	0.37	VQ				
1+ 0	0.0203	0.41	VQ				
1+ 5	0.0232	0.41	VQ				
1+10	0.0259	0.39	VQ				
1+15	0.0284	0.37	VQ				
1+20	0.0309	0.36	VQ				
1+25	0.0333	0.35	VQ				
1+30	0.0357	0.35	VQ				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+35	0.0381	0.35	VQ				
1+40	0.0405	0.35	VQ				
1+45	0.0429	0.35	VQ				
1+50	0.0453	0.35	VQ				
1+55	0.0480	0.39	VQ				
2+ 0	0.0509	0.42	VQ				
2+ 5	0.0539	0.43	VQ				
2+10	0.0569	0.44	VQ				
2+15	0.0599	0.44	IQ				
2+20	0.0630	0.45	IQ				
2+25	0.0661	0.45	IQ				
2+30	0.0692	0.45	IQ				
2+35	0.0724	0.46	IQ				
2+40	0.0758	0.50	IQ				
2+45	0.0794	0.53	IVQ				
2+50	0.0832	0.54	IVQ				
2+55	0.0870	0.55	IVQ				
3+ 0	0.0908	0.56	IVQ				
3+ 5	0.0946	0.56	IVQ				
3+10	0.0985	0.56	IVQ				
3+15	0.1024	0.57	IVQ				
3+20	0.1063	0.57	IVQ				
3+25	0.1102	0.57	IVQ				
3+30	0.1142	0.57	IVQ				
3+35	0.1181	0.57	IVQ				
3+40	0.1220	0.57	I Q				
3+45	0.1260	0.57	I Q				
3+50	0.1299	0.58	I Q				
3+55	0.1342	0.61	I Q				
4+ 0	0.1386	0.65	I Q				
4+ 5	0.1431	0.66	I Q				
4+10	0.1477	0.67	I Q				
4+15	0.1523	0.67	I Q				
4+20	0.1570	0.68	I Q				
4+25	0.1620	0.72	I Q				
4+30	0.1672	0.75	I VQ				
4+35	0.1725	0.77	I VQ				
4+40	0.1778	0.78	I VQ				
4+45	0.1832	0.78	I Q				
4+50	0.1887	0.80	I Q				
4+55	0.1944	0.83	I Q				
5+ 0	0.2004	0.87	I Q				
5+ 5	0.2064	0.87	I Q				
5+10	0.2119	0.81	I Q				
5+15	0.2171	0.75	I Q				
5+20	0.2222	0.74	I QV				
5+25	0.2274	0.76	I Q				
5+30	0.2328	0.78	I Q				
5+35	0.2383	0.80	I QV				
5+40	0.2440	0.83	I QV				
5+45	0.2500	0.87	I QV				
5+50	0.2561	0.88	I QV				
5+55	0.2623	0.89	I QV				
6+ 0	0.2684	0.90	I QV				
6+ 5	0.2747	0.91	I QV				
6+10	0.2812	0.95	I QV				
6+15	0.2880	0.98	I QV				
6+20	0.2948	1.00	I QV				
6+25	0.3017	1.00	I QV				
6+30	0.3087	1.01	I QV				
6+35	0.3158	1.02	I QV				
6+40	0.3231	1.06	I QV				
6+45	0.3306	1.10	I QV				

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

6+50	0.3383	1.11	QV				
6+55	0.3460	1.12	QV				
7+ 0	0.3537	1.13	QV				
7+ 5	0.3615	1.13	Q V				
7+10	0.3693	1.13	Q V				
7+15	0.3772	1.14	Q V				
7+20	0.3851	1.15	Q V				
7+25	0.3932	1.18	Q V				
7+30	0.4016	1.21	Q V				
7+35	0.4101	1.24	Q V				
7+40	0.4189	1.28	Q V				
7+45	0.4279	1.32	Q V				
7+50	0.4372	1.34	Q V				
7+55	0.4467	1.38	Q V				
8+ 0	0.4565	1.42	Q V				
8+ 5	0.4666	1.46	Q V				
8+10	0.4771	1.54	Q V				
8+15	0.4882	1.61	Q V				
8+20	0.4995	1.64	Q V				
8+25	0.5110	1.66	Q V				
8+30	0.5225	1.68	Q V				
8+35	0.5342	1.69	Q V				
8+40	0.5462	1.74	Q V				
8+45	0.5584	1.77	Q V				
8+50	0.5708	1.80	Q V				
8+55	0.5835	1.84	Q V				
9+ 0	0.5964	1.88	Q V				
9+ 5	0.6096	1.92	Q V				
9+10	0.6234	2.00	Q V				
9+15	0.6376	2.07	Q V				
9+20	0.6522	2.11	Q V				
9+25	0.6670	2.16	Q V				
9+30	0.6822	2.21	Q V				
9+35	0.6977	2.24	Q V				
9+40	0.7134	2.29	Q V				
9+45	0.7295	2.33	Q V				
9+50	0.7457	2.36	Q V				
9+55	0.7623	2.41	Q V				
10+ 0	0.7791	2.45	Q V				
10+ 5	0.7958	2.41	Q V				
10+10	0.8109	2.19	Q V				
10+15	0.8245	1.98	Q V				
10+20	0.8375	1.89	Q V				
10+25	0.8502	1.84	Q V				
10+30	0.8626	1.81	Q V				
10+35	0.8752	1.82	Q V				
10+40	0.8888	1.97	Q V				
10+45	0.9034	2.12	Q V				
10+50	0.9184	2.18	Q V				
10+55	0.9337	2.21	Q V				
11+ 0	0.9490	2.23	Q V				
11+ 5	0.9644	2.23	Q V				
11+10	0.9796	2.21	Q V				
11+15	0.9946	2.18	Q V				
11+20	1.0096	2.18	Q V				
11+25	1.0246	2.18	Q V				
11+30	1.0396	2.18	Q V				
11+35	1.0545	2.16	Q V				
11+40	1.0689	2.09	Q V				
11+45	1.0829	2.03	Q V				
11+50	1.0967	2.01	Q V				
11+55	1.1107	2.03	Q V				
12+ 0	1.1248	2.05	Q V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

12+ 5	1.1393	2.11		Q		V			
12+10	1.1554	2.34		Q		V			
12+15	1.1731	2.57		Q		V			
12+20	1.1915	2.67		Q		V			
12+25	1.2105	2.76		Q		V			
12+30	1.2300	2.83		Q		V			
12+35	1.2498	2.88		Q		V			
12+40	1.2703	2.97		Q		V			
12+45	1.2914	3.06		Q		V			
12+50	1.3128	3.11		Q		V			
12+55	1.3346	3.17		Q		V			
13+ 0	1.3568	3.22		Q		V			
13+ 5	1.3795	3.29		Q		V			
13+10	1.4034	3.48		Q		V			
13+15	1.4286	3.66		Q		V			
13+20	1.4547	3.78		Q		V			
13+25	1.4816	3.92		Q		V			
13+30	1.5097	4.07		Q		V			
13+35	1.5379	4.09		Q		V			
13+40	1.5630	3.64		Q		V			
13+45	1.5848	3.16		Q		V			
13+50	1.6053	2.98		Q		V			
13+55	1.6251	2.88		Q		V			
14+ 0	1.6445	2.82		Q		V			
14+ 5	1.6638	2.80		Q		V			
14+10	1.6838	2.90		Q		V			
14+15	1.7046	3.01		Q		V			
14+20	1.7255	3.03		Q		V			
14+25	1.7462	3.01		Q		V			
14+30	1.7668	2.99		Q		V			
14+35	1.7873	2.98		Q		V			
14+40	1.8078	2.97		Q		V			
14+45	1.8282	2.96		Q		V			
14+50	1.8485	2.96		Q		V			
14+55	1.8687	2.93		Q		V			
15+ 0	1.8886	2.90		Q		V			
15+ 5	1.9084	2.88		Q		V			
15+10	1.9280	2.84		Q		V			
15+15	1.9473	2.80		Q		V			
15+20	1.9664	2.78		Q		V			
15+25	1.9852	2.73		Q		V			
15+30	2.0037	2.69		Q		V			
15+35	2.0219	2.64		Q		V			
15+40	2.0391	2.50		Q		V			
15+45	2.0553	2.36		Q		V			
15+50	2.0712	2.30		Q		V			
15+55	2.0868	2.26		Q		V			
16+ 0	2.1022	2.24		Q		V			
16+ 5	2.1167	2.10		Q		V			
16+10	2.1276	1.59		Q		V			
16+15	2.1352	1.10		Q		V			
16+20	2.1413	0.89		Q		V			
16+25	2.1466	0.77		Q		V			
16+30	2.1513	0.69		Q		V			
16+35	2.1556	0.62		Q		V			
16+40	2.1593	0.54		Q		V			
16+45	2.1626	0.48		Q		V			
16+50	2.1656	0.44		Q		V			
16+55	2.1685	0.41		Q		V			
17+ 0	2.1712	0.39		Q		V			
17+ 5	2.1739	0.39		Q		V			
17+10	2.1770	0.45		Q		V			
17+15	2.1804	0.50		Q		V			

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

17+20	2.1840	0.52	Q				V	
17+25	2.1876	0.54	Q				V	
17+30	2.1914	0.54	Q				V	
17+35	2.1952	0.55	Q				V	
17+40	2.1990	0.56	Q				V	
17+45	2.2029	0.56	Q				V	
17+50	2.2067	0.55	Q				V	
17+55	2.2103	0.52	Q				V	
18+ 0	2.2137	0.49	Q				V	
18+ 5	2.2170	0.48	Q				V	
18+10	2.2203	0.48	Q				V	
18+15	2.2235	0.47	Q				V	
18+20	2.2268	0.47	Q				V	
18+25	2.2300	0.47	Q				V	
18+30	2.2332	0.46	Q				V	
18+35	2.2363	0.45	Q				V	
18+40	2.2392	0.42	Q				V	
18+45	2.2418	0.39	Q				V	
18+50	2.2443	0.36	Q				V	
18+55	2.2466	0.32	Q				V	
19+ 0	2.2485	0.28	Q				V	
19+ 5	2.2504	0.27	Q				V	
19+10	2.2525	0.30	Q				V	
19+15	2.2547	0.32	Q				V	
19+20	2.2570	0.34	Q				V	
19+25	2.2596	0.38	Q				V	
19+30	2.2624	0.41	Q				V	
19+35	2.2653	0.42	Q				V	
19+40	2.2680	0.39	Q				V	
19+45	2.2705	0.36	Q				V	
19+50	2.2729	0.35	Q				V	
19+55	2.2751	0.31	Q				V	
20+ 0	2.2770	0.28	Q				V	
20+ 5	2.2788	0.27	Q				V	
20+10	2.2808	0.29	Q				V	
20+15	2.2830	0.32	Q				V	
20+20	2.2853	0.33	Q				V	
20+25	2.2876	0.33	Q				V	
20+30	2.2899	0.34	Q				V	
20+35	2.2923	0.34	Q				V	
20+40	2.2946	0.34	Q				V	
20+45	2.2969	0.34	Q				V	
20+50	2.2992	0.33	Q				V	
20+55	2.3013	0.30	Q				V	
21+ 0	2.3031	0.27	Q				V	
21+ 5	2.3049	0.26	Q				V	
21+10	2.3069	0.29	Q				V	
21+15	2.3091	0.32	Q				V	
21+20	2.3113	0.32	Q				V	
21+25	2.3133	0.29	Q				V	
21+30	2.3151	0.26	Q				V	
21+35	2.3169	0.26	Q				V	
21+40	2.3188	0.28	Q				V	
21+45	2.3210	0.31	Q				V	
21+50	2.3231	0.32	Q				V	
21+55	2.3251	0.29	Q				V	
22+ 0	2.3269	0.26	Q				V	
22+ 5	2.3287	0.26	Q				V	
22+10	2.3306	0.28	Q				V	
22+15	2.3328	0.31	Q				V	
22+20	2.3349	0.32	Q				V	
22+25	2.3369	0.29	Q				V	
22+30	2.3387	0.26	Q				V	

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

22+35	2.3404	0.25	Q				V
22+40	2.3421	0.24	Q				V
22+45	2.3437	0.24	Q				V
22+50	2.3454	0.24	Q				V
22+55	2.3470	0.23	Q				V
23+ 0	2.3486	0.23	Q				V
23+ 5	2.3502	0.23	Q				V
23+10	2.3518	0.23	Q				V
23+15	2.3534	0.23	Q				V
23+20	2.3549	0.23	Q				V
23+25	2.3565	0.23	Q				V
23+30	2.3581	0.23	Q				V
23+35	2.3597	0.23	Q				V
23+40	2.3613	0.23	Q				V
23+45	2.3628	0.23	Q				V
23+50	2.3644	0.23	Q				V
23+55	2.3660	0.23	Q				V
24+ 0	2.3675	0.23	Q				V
24+ 5	2.3690	0.21	Q				V
24+10	2.3700	0.15	Q				V
24+15	2.3706	0.08	Q				V
24+20	2.3710	0.05	Q				V
24+25	2.3712	0.04	Q				V
24+30	2.3714	0.03	Q				V
24+35	2.3716	0.02	Q				V
24+40	2.3717	0.02	Q				V
24+45	2.3718	0.01	Q				V
24+50	2.3719	0.01	Q				V
24+55	2.3719	0.01	Q				V
25+ 0	2.3719	0.00	Q				V
25+ 5	2.3719	0.00	Q				V
25+10	2.3720	0.00	Q				V

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx10exh110.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
10-year 1-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 10.00  
Area Averaged 2-Year Rainfall = 0.528 (In)



# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 100-Year Rainfall = 1.590 (In)

Point rain (area averaged) = 0.965 (In)  
 Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 0.964 (In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	80.2	0.242	0.000	0.242	1.000	0.242
						Sum (F) = 0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242  
 Minimum soil loss rate ((In/Hr)) = 0.121  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.900

-----  
 Slope of intensity-duration curve for a 1 hour storm = 0.4800  
 -----

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	4.40	0.509	( 0.242)	0.267
2	0.17	4.50	0.521	( 0.242)	0.279
3	0.25	5.40	0.625	( 0.242)	0.383
4	0.33	5.40	0.625	( 0.242)	0.383
5	0.42	5.70	0.659	( 0.242)	0.418
6	0.50	6.40	0.740	( 0.242)	0.499
7	0.58	7.90	0.914	( 0.242)	0.672

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

8	0.67	9.10	1.053	0.242	( 0.948)	0.811
9	0.75	12.80	1.481	0.242	( 1.333)	1.239
10	0.83	25.60	2.962	0.242	( 2.666)	2.720
11	0.92	7.90	0.914	0.242	( 0.823)	0.672
12	1.00	4.90	0.567	0.242	( 0.510)	0.325

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.7

Flood volume = Effective rainfall 0.72 (In)  
times area 91.5 (Ac.) / [(In) / (Ft.)] = 5.5 (Ac.Ft)  
Total soil loss = 0.24 (In)  
Total soil loss = 1.843 (Ac.Ft)  
Total rainfall = 0.96 (In)  
Flood volume = 239940.0 Cubic Feet  
Total soil loss = 80286.1 Cubic Feet

-----  
Peak flow rate of this hydrograph = 128.187 (CFS)  
-----

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1 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0116	1.69	Q				
0+10	0.0734	8.97	VQ				
0+15	0.1899	16.92	V Q				
0+20	0.3478	22.93	V Q				
0+25	0.5378	27.59	V Q				
0+30	0.7537	31.35	VQ				
0+35	1.0085	37.00	Q				
0+40	1.3260	46.10	Q				
0+45	1.7319	58.94	QV				
0+50	2.3283	86.59	VQ				
0+55	3.2111	128.19	V Q				
1+ 0	4.0125	116.35	Q		V		
1+ 5	4.5065	71.72	Q		V		
1+10	4.8063	43.54	Q		V		
1+15	4.9952	27.43	Q		V		
1+20	5.1284	19.34	Q		V		
1+25	5.2270	14.31	Q		V		
1+30	5.3013	10.80	Q		V		
1+35	5.3601	8.54	Q		V		
1+40	5.4052	6.54	Q		V		
1+45	5.4400	5.05	Q		V		
1+50	5.4658	3.75	Q		V		
1+55	5.4858	2.89	Q		V		
2+ 0	5.5024	2.42	Q		V		
2+ 5	5.5067	0.63	Q		V		
2+10	5.5083	0.23	Q		V		

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx10exh310.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
10-year 3-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 3 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 10.00  
Area Averaged 2-Year Rainfall = 0.911 (In)  
Area Averaged 100-Year Rainfall = 2.330 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Point rain (area averaged) = 1.495(In)  
 Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 1.494(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	80.2	0.242	0.000	0.242	1.000	0.242
						Sum (F) = 0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242  
 Minimum soil loss rate ((In/Hr)) = 0.121  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.319
2	0.167	107.406	26.938
3	0.250	161.109	26.093
4	0.333	214.812	10.841
5	0.417	268.515	5.987
6	0.500	322.218	4.146
7	0.583	375.921	2.987
8	0.667	429.624	2.195
9	0.750	483.328	1.625
10	0.833	537.031	1.399
11	0.917	590.734	1.052
12	1.000	644.437	0.829
13	1.083	698.140	0.617
14	1.167	751.843	0.496
15	1.250	805.546	0.692
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	1.30	( 0.242)	0.210	0.023
2	0.17	1.30	( 0.242)	0.210	0.023
3	0.25	1.10	( 0.242)	0.178	0.020
4	0.33	1.50	0.242	( 0.242)	0.027
5	0.42	1.50	0.242	( 0.242)	0.027
6	0.50	1.80	0.323	( 0.290)	0.081
7	0.58	1.50	0.242	( 0.242)	0.027
8	0.67	1.80	0.323	( 0.290)	0.081
9	0.75	1.80	0.323	( 0.290)	0.081
10	0.83	1.50	0.242	( 0.242)	0.027
11	0.92	1.60	0.287	( 0.258)	0.045

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

12	1.00	1.80	0.323	0.242	( 0.290)	0.081
13	1.08	2.20	0.394	0.242	( 0.355)	0.153
14	1.17	2.20	0.394	0.242	( 0.355)	0.153
15	1.25	2.20	0.394	0.242	( 0.355)	0.153
16	1.33	2.00	0.359	0.242	( 0.323)	0.117
17	1.42	2.60	0.466	0.242	( 0.420)	0.224
18	1.50	2.70	0.484	0.242	( 0.436)	0.242
19	1.58	2.40	0.430	0.242	( 0.387)	0.189
20	1.67	2.70	0.484	0.242	( 0.436)	0.242
21	1.75	3.30	0.592	0.242	( 0.533)	0.350
22	1.83	3.10	0.556	0.242	( 0.500)	0.314
23	1.92	2.90	0.520	0.242	( 0.468)	0.278
24	2.00	3.00	0.538	0.242	( 0.484)	0.296
25	2.08	3.10	0.556	0.242	( 0.500)	0.314
26	2.17	4.20	0.753	0.242	( 0.678)	0.511
27	2.25	5.00	0.897	0.242	( 0.807)	0.655
28	2.33	3.50	0.628	0.242	( 0.565)	0.386
29	2.42	6.80	1.219	0.242	( 1.097)	0.978
30	2.50	7.30	1.309	0.242	( 1.178)	1.067
31	2.58	8.20	1.470	0.242	( 1.323)	1.229
32	2.67	5.90	1.058	0.242	( 0.952)	0.816
33	2.75	2.00	0.359	0.242	( 0.323)	0.117
34	2.83	1.80	0.323	0.242	( 0.290)	0.081
35	2.92	1.80	0.323	0.242	( 0.290)	0.081
36	3.00	0.60	0.108	( 0.242)	0.097	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.5

Flood volume = Effective rainfall 0.79(In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 6.0(Ac.Ft)

Total soil loss = 0.70(In)

Total soil loss = 5.356(Ac.Ft)

Total rainfall = 1.49(In)

Flood volume = 262985.1 Cubic Feet

Total soil loss = 233302.6 Cubic Feet

-----  
Peak flow rate of this hydrograph = 85.884(CFS)  
-----

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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	22.5	45.0	67.5	90.0
0+ 5	0.0010	0.15	Q				
0+10	0.0064	0.78	Q				
0+15	0.0157	1.36	Q				
0+20	0.0265	1.57	Q				
0+25	0.0390	1.81	Q				
0+30	0.0556	2.41	VQ				
0+35	0.0807	3.65	VQ				
0+40	0.1084	4.02	VQ				
0+45	0.1408	4.71	V Q				
0+50	0.1791	5.56	VQ				
0+55	0.2118	4.74	VQ				
1+ 0	0.2417	4.34	Q				
1+ 5	0.2819	5.84	VQ				
1+10	0.3420	8.73	VQ				
1+15	0.4178	11.00	V Q				
1+20	0.4987	11.75	V Q				
1+25	0.5817	12.04	V Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+30	0.6817	14.53		V Q					
1+35	0.8014	17.38		V Q					
1+40	0.9248	17.91		VQ					
1+45	1.0588	19.46		VQ					
1+50	1.2211	23.56		V Q					
1+55	1.3990	25.84		V Q					
2+ 0	1.5754	25.60		VQ					
2+ 5	1.7532	25.82		Q					
2+10	1.9467	28.11		Q					
2+15	2.1887	35.14			VQ				
2+20	2.4837	42.83			V	Q			
2+25	2.7968	45.46				V Q			
2+30	3.1955	57.88				V	Q		
2+35	3.7170	75.72					V	Q	
2+40	4.3085	85.88						V	Q
2+45	4.8516	78.87						V	Q
2+50	5.2213	53.68						V	Q
2+55	5.4492	33.08			Q			V	
3+ 0	5.6133	23.84			Q			V	
3+ 5	5.7315	17.16			Q			V	
3+10	5.8141	12.00			Q			V	
3+15	5.8747	8.79			Q			V	
3+20	5.9215	6.80			Q			V	
3+25	5.9575	5.22			Q			V	
3+30	5.9836	3.79			Q			V	
3+35	6.0045	3.03			Q			V	
3+40	6.0194	2.17			Q			V	
3+45	6.0297	1.50			Q			V	
3+50	6.0349	0.75			Q			V	
3+55	6.0361	0.18			Q			V	
4+ 0	6.0368	0.10			Q			V	
4+ 5	6.0373	0.06			Q			V	
4+10	6.0373	0.01			Q			V	

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx10exh610.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
10-year 6-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 10.00  
Area Averaged 2-Year Rainfall = 1.290 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 100-Year Rainfall = 3.170(In)

Point rain (area averaged) = 2.063(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 2.063(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	80.2	0.242	0.000	0.242	1.000	0.242
						Sum (F) = 0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242  
 Minimum soil loss rate ((In/Hr)) = 0.121  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time	% of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852	6.319
2	0.167	107.406	29.212	26.938
3	0.250	161.109	28.296	26.093
4	0.333	214.812	11.756	10.841
5	0.417	268.515	6.492	5.987
6	0.500	322.218	4.496	4.146
7	0.583	375.921	3.239	2.987
8	0.667	429.624	2.380	2.195
9	0.750	483.328	1.763	1.625
10	0.833	537.031	1.517	1.399
11	0.917	590.734	1.140	1.052
12	1.000	644.437	0.899	0.829
13	1.083	698.140	0.669	0.617
14	1.167	751.843	0.538	0.496
15	1.250	805.546	0.750	0.692
Sum = 100.000			Sum=	92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.124	( 0.242)	0.111	0.012
2	0.17	0.60	0.149	( 0.242)	0.134	0.015
3	0.25	0.60	0.149	( 0.242)	0.134	0.015
4	0.33	0.60	0.149	( 0.242)	0.134	0.015
5	0.42	0.60	0.149	( 0.242)	0.134	0.015
6	0.50	0.70	0.173	( 0.242)	0.156	0.017
7	0.58	0.70	0.173	( 0.242)	0.156	0.017
8	0.67	0.70	0.173	( 0.242)	0.156	0.017
9	0.75	0.70	0.173	( 0.242)	0.156	0.017



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

10	0.83	0.70	0.173	( 0.242)	0.156	0.017
11	0.92	0.70	0.173	( 0.242)	0.156	0.017
12	1.00	0.80	0.198	( 0.242)	0.178	0.020
13	1.08	0.80	0.198	( 0.242)	0.178	0.020
14	1.17	0.80	0.198	( 0.242)	0.178	0.020
15	1.25	0.80	0.198	( 0.242)	0.178	0.020
16	1.33	0.80	0.198	( 0.242)	0.178	0.020
17	1.42	0.80	0.198	( 0.242)	0.178	0.020
18	1.50	0.80	0.198	( 0.242)	0.178	0.020
19	1.58	0.80	0.198	( 0.242)	0.178	0.020
20	1.67	0.80	0.198	( 0.242)	0.178	0.020
21	1.75	0.80	0.198	( 0.242)	0.178	0.020
22	1.83	0.80	0.198	( 0.242)	0.178	0.020
23	1.92	0.80	0.198	( 0.242)	0.178	0.020
24	2.00	0.90	0.223	( 0.242)	0.201	0.022
25	2.08	0.80	0.198	( 0.242)	0.178	0.020
26	2.17	0.90	0.223	( 0.242)	0.201	0.022
27	2.25	0.90	0.223	( 0.242)	0.201	0.022
28	2.33	0.90	0.223	( 0.242)	0.201	0.022
29	2.42	0.90	0.223	( 0.242)	0.201	0.022
30	2.50	0.90	0.223	( 0.242)	0.201	0.022
31	2.58	0.90	0.223	( 0.242)	0.201	0.022
32	2.67	0.90	0.223	( 0.242)	0.201	0.022
33	2.75	1.00	0.248	( 0.242)	0.223	0.025
34	2.83	1.00	0.248	( 0.242)	0.223	0.025
35	2.92	1.00	0.248	( 0.242)	0.223	0.025
36	3.00	1.00	0.248	( 0.242)	0.223	0.025
37	3.08	1.00	0.248	( 0.242)	0.223	0.025
38	3.17	1.10	0.272	0.242 ( 0.245)		0.031
39	3.25	1.10	0.272	0.242 ( 0.245)		0.031
40	3.33	1.10	0.272	0.242 ( 0.245)		0.031
41	3.42	1.20	0.297	0.242 ( 0.267)		0.055
42	3.50	1.30	0.322	0.242 ( 0.290)		0.080
43	3.58	1.40	0.347	0.242 ( 0.312)		0.105
44	3.67	1.40	0.347	0.242 ( 0.312)		0.105
45	3.75	1.50	0.371	0.242 ( 0.334)		0.130
46	3.83	1.50	0.371	0.242 ( 0.334)		0.130
47	3.92	1.60	0.396	0.242 ( 0.356)		0.154
48	4.00	1.60	0.396	0.242 ( 0.356)		0.154
49	4.08	1.70	0.421	0.242 ( 0.379)		0.179
50	4.17	1.80	0.446	0.242 ( 0.401)		0.204
51	4.25	1.90	0.470	0.242 ( 0.423)		0.229
52	4.33	2.00	0.495	0.242 ( 0.446)		0.253
53	4.42	2.10	0.520	0.242 ( 0.468)		0.278
54	4.50	2.10	0.520	0.242 ( 0.468)		0.278
55	4.58	2.20	0.545	0.242 ( 0.490)		0.303
56	4.67	2.30	0.569	0.242 ( 0.512)		0.328
57	4.75	2.40	0.594	0.242 ( 0.535)		0.352
58	4.83	2.40	0.594	0.242 ( 0.535)		0.352
59	4.92	2.50	0.619	0.242 ( 0.557)		0.377
60	5.00	2.60	0.644	0.242 ( 0.579)		0.402
61	5.08	3.10	0.767	0.242 ( 0.691)		0.526
62	5.17	3.60	0.891	0.242 ( 0.802)		0.649
63	5.25	3.90	0.965	0.242 ( 0.869)		0.724
64	5.33	4.20	1.040	0.242 ( 0.936)		0.798
65	5.42	4.70	1.163	0.242 ( 1.047)		0.922
66	5.50	5.60	1.386	0.242 ( 1.248)		1.144
67	5.58	1.90	0.470	0.242 ( 0.423)		0.229
68	5.67	0.90	0.223	( 0.242)	0.201	0.022
69	5.75	0.60	0.149	( 0.242)	0.134	0.015
70	5.83	0.50	0.124	( 0.242)	0.111	0.012
71	5.92	0.30	0.074	( 0.242)	0.067	0.007
72	6.00	0.20	0.050	( 0.242)	0.045	0.005

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.3

Flood volume = Effective rainfall 0.86(In)  
times area 91.5(Ac.) / [(In) / (Ft.)] = 6.6(Ac.Ft)

Total soil loss = 1.20(In)  
Total soil loss = 9.166(Ac.Ft)

Total rainfall = 2.06(In)  
Flood volume = 285877.0 Cubic Feet  
Total soil loss = 399271.1 Cubic Feet

Peak flow rate of this hydrograph = 76.756(CFS)

+++++  
6 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0005	0.08	Q				
0+10	0.0035	0.43	Q				
0+15	0.0091	0.82	Q				
0+20	0.0161	1.02	Q				
0+25	0.0238	1.12	Q				
0+30	0.0321	1.20	Q				
0+35	0.0411	1.31	Q				
0+40	0.0508	1.41	Q				
0+45	0.0609	1.46	Q				
0+50	0.0713	1.50	Q				
0+55	0.0818	1.53	Q				
1+ 0	0.0925	1.56	Q				
1+ 5	0.1039	1.65	Q				
1+10	0.1157	1.72	Q				
1+15	0.1279	1.76	Q				
1+20	0.1401	1.78	Q				
1+25	0.1525	1.79	Q				
1+30	0.1649	1.80	QV				
1+35	0.1773	1.81	QV				
1+40	0.1898	1.81	QV				
1+45	0.2024	1.82	QV				
1+50	0.2149	1.82	QV				
1+55	0.2274	1.82	QV				
2+ 0	0.2401	1.84	QV				
2+ 5	0.2531	1.89	QV				
2+10	0.2663	1.91	QV				
2+15	0.2796	1.94	QV				
2+20	0.2933	1.99	QV				
2+25	0.3072	2.01	IQ				
2+30	0.3211	2.02	IQ				
2+35	0.3351	2.03	IQV				
2+40	0.3491	2.04	IQV				
2+45	0.3633	2.06	IQV				
2+50	0.3780	2.13	IQV				
2+55	0.3931	2.20	IQV				
3+ 0	0.4084	2.22	IQV				
3+ 5	0.4238	2.24	IQV				
3+10	0.4396	2.29	IQV				
3+15	0.4565	2.45	IQV				
3+20	0.4745	2.61	IQV				
3+25	0.4940	2.84	IQ V				
3+30	0.5195	3.70	IQ V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

3+35	0.5553	5.19	QV				
3+40	0.6021	6.80	Q				
3+45	0.6574	8.03	Q				
3+50	0.7209	9.23	Q				
3+55	0.7923	10.36	VQ				
4+ 0	0.8718	11.54	Q				
4+ 5	0.9590	12.66	VQ				
4+10	1.0553	13.99	Q				
4+15	1.1640	15.79	Q				
4+20	1.2864	17.77	VQ				
4+25	1.4229	19.83	VQ				
4+30	1.5731	21.80	VQ				
4+35	1.7336	23.31	VQ				
4+40	1.9048	24.86	VQ				
4+45	2.0894	26.81	VQ				
4+50	2.2873	28.73	VQ				
4+55	2.4954	30.21	Q				
5+ 0	2.7140	31.74	QV				
5+ 5	2.9503	34.32	Q				
5+10	3.2237	39.69	Q				
5+15	3.5502	47.40	V Q				
5+20	3.9282	54.89	V				
5+25	4.3553	62.02	V				
5+30	4.8444	71.00	V				
5+35	5.3730	76.76	V				
5+40	5.7824	59.44	Q				
5+45	6.0179	34.19	Q				
5+50	6.1648	21.34	Q				
5+55	6.2699	15.26	Q				
6+ 0	6.3481	11.35	Q				
6+ 5	6.4069	8.54	Q				
6+10	6.4513	6.44	Q				
6+15	6.4856	4.98	Q				
6+20	6.5114	3.76	Q				
6+25	6.5306	2.78	Q				
6+30	6.5444	2.00	Q				
6+35	6.5542	1.42	Q				
6+40	6.5608	0.96	Q				
6+45	6.5622	0.20	Q				
6+50	6.5625	0.04	Q				
6+55	6.5627	0.03	Q				
7+ 0	6.5628	0.02	Q				
7+ 5	6.5628	0.01	Q				
7+10	6.5628	0.00	Q				

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx10exh2410.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
10-year 24-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 10.00

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 2-Year Rainfall = 2.250(In)  
 Area Averaged 100-Year Rainfall = 5.870(In)

Point rain (area averaged) = 3.739(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 3.739(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	80.2	0.242	0.000	0.242	1.000	0.242
						Sum (F) = 0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242  
 Minimum soil loss rate ((In/Hr)) = 0.121  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.030	( 0.429)	0.027	0.003
2	0.17	0.030	( 0.427)	0.027	0.003
3	0.25	0.030	( 0.425)	0.027	0.003
4	0.33	0.045	( 0.424)	0.040	0.004
5	0.42	0.045	( 0.422)	0.040	0.004
6	0.50	0.045	( 0.420)	0.040	0.004
7	0.58	0.045	( 0.419)	0.040	0.004
8	0.67	0.045	( 0.417)	0.040	0.004

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

9	0.75	0.10	0.045	( 0.415)	0.040	0.004
10	0.83	0.13	0.060	( 0.414)	0.054	0.006
11	0.92	0.13	0.060	( 0.412)	0.054	0.006
12	1.00	0.13	0.060	( 0.410)	0.054	0.006
13	1.08	0.10	0.045	( 0.409)	0.040	0.004
14	1.17	0.10	0.045	( 0.407)	0.040	0.004
15	1.25	0.10	0.045	( 0.406)	0.040	0.004
16	1.33	0.10	0.045	( 0.404)	0.040	0.004
17	1.42	0.10	0.045	( 0.402)	0.040	0.004
18	1.50	0.10	0.045	( 0.401)	0.040	0.004
19	1.58	0.10	0.045	( 0.399)	0.040	0.004
20	1.67	0.10	0.045	( 0.398)	0.040	0.004
21	1.75	0.10	0.045	( 0.396)	0.040	0.004
22	1.83	0.13	0.060	( 0.394)	0.054	0.006
23	1.92	0.13	0.060	( 0.393)	0.054	0.006
24	2.00	0.13	0.060	( 0.391)	0.054	0.006
25	2.08	0.13	0.060	( 0.390)	0.054	0.006
26	2.17	0.13	0.060	( 0.388)	0.054	0.006
27	2.25	0.13	0.060	( 0.386)	0.054	0.006
28	2.33	0.13	0.060	( 0.385)	0.054	0.006
29	2.42	0.13	0.060	( 0.383)	0.054	0.006
30	2.50	0.13	0.060	( 0.382)	0.054	0.006
31	2.58	0.17	0.075	( 0.380)	0.067	0.007
32	2.67	0.17	0.075	( 0.379)	0.067	0.007
33	2.75	0.17	0.075	( 0.377)	0.067	0.007
34	2.83	0.17	0.075	( 0.376)	0.067	0.007
35	2.92	0.17	0.075	( 0.374)	0.067	0.007
36	3.00	0.17	0.075	( 0.372)	0.067	0.007
37	3.08	0.17	0.075	( 0.371)	0.067	0.007
38	3.17	0.17	0.075	( 0.369)	0.067	0.007
39	3.25	0.17	0.075	( 0.368)	0.067	0.007
40	3.33	0.17	0.075	( 0.366)	0.067	0.007
41	3.42	0.17	0.075	( 0.365)	0.067	0.007
42	3.50	0.17	0.075	( 0.363)	0.067	0.007
43	3.58	0.17	0.075	( 0.362)	0.067	0.007
44	3.67	0.17	0.075	( 0.360)	0.067	0.007
45	3.75	0.17	0.075	( 0.359)	0.067	0.007
46	3.83	0.20	0.090	( 0.357)	0.081	0.009
47	3.92	0.20	0.090	( 0.356)	0.081	0.009
48	4.00	0.20	0.090	( 0.354)	0.081	0.009
49	4.08	0.20	0.090	( 0.353)	0.081	0.009
50	4.17	0.20	0.090	( 0.351)	0.081	0.009
51	4.25	0.20	0.090	( 0.350)	0.081	0.009
52	4.33	0.23	0.105	( 0.348)	0.094	0.010
53	4.42	0.23	0.105	( 0.347)	0.094	0.010
54	4.50	0.23	0.105	( 0.345)	0.094	0.010
55	4.58	0.23	0.105	( 0.344)	0.094	0.010
56	4.67	0.23	0.105	( 0.342)	0.094	0.010
57	4.75	0.23	0.105	( 0.341)	0.094	0.010
58	4.83	0.27	0.120	( 0.339)	0.108	0.012
59	4.92	0.27	0.120	( 0.338)	0.108	0.012
60	5.00	0.27	0.120	( 0.336)	0.108	0.012
61	5.08	0.20	0.090	( 0.335)	0.081	0.009
62	5.17	0.20	0.090	( 0.333)	0.081	0.009
63	5.25	0.20	0.090	( 0.332)	0.081	0.009
64	5.33	0.23	0.105	( 0.331)	0.094	0.010
65	5.42	0.23	0.105	( 0.329)	0.094	0.010
66	5.50	0.23	0.105	( 0.328)	0.094	0.010
67	5.58	0.27	0.120	( 0.326)	0.108	0.012
68	5.67	0.27	0.120	( 0.325)	0.108	0.012
69	5.75	0.27	0.120	( 0.323)	0.108	0.012
70	5.83	0.27	0.120	( 0.322)	0.108	0.012
71	5.92	0.27	0.120	( 0.320)	0.108	0.012

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

72	6.00	0.27	0.120	( 0.319)	0.108	0.012
73	6.08	0.30	0.135	( 0.318)	0.121	0.013
74	6.17	0.30	0.135	( 0.316)	0.121	0.013
75	6.25	0.30	0.135	( 0.315)	0.121	0.013
76	6.33	0.30	0.135	( 0.313)	0.121	0.013
77	6.42	0.30	0.135	( 0.312)	0.121	0.013
78	6.50	0.30	0.135	( 0.311)	0.121	0.013
79	6.58	0.33	0.150	( 0.309)	0.135	0.015
80	6.67	0.33	0.150	( 0.308)	0.135	0.015
81	6.75	0.33	0.150	( 0.306)	0.135	0.015
82	6.83	0.33	0.150	( 0.305)	0.135	0.015
83	6.92	0.33	0.150	( 0.304)	0.135	0.015
84	7.00	0.33	0.150	( 0.302)	0.135	0.015
85	7.08	0.33	0.150	( 0.301)	0.135	0.015
86	7.17	0.33	0.150	( 0.300)	0.135	0.015
87	7.25	0.33	0.150	( 0.298)	0.135	0.015
88	7.33	0.37	0.164	( 0.297)	0.148	0.016
89	7.42	0.37	0.164	( 0.295)	0.148	0.016
90	7.50	0.37	0.164	( 0.294)	0.148	0.016
91	7.58	0.40	0.179	( 0.293)	0.162	0.018
92	7.67	0.40	0.179	( 0.291)	0.162	0.018
93	7.75	0.40	0.179	( 0.290)	0.162	0.018
94	7.83	0.43	0.194	( 0.289)	0.175	0.019
95	7.92	0.43	0.194	( 0.287)	0.175	0.019
96	8.00	0.43	0.194	( 0.286)	0.175	0.019
97	8.08	0.50	0.224	( 0.285)	0.202	0.022
98	8.17	0.50	0.224	( 0.283)	0.202	0.022
99	8.25	0.50	0.224	( 0.282)	0.202	0.022
100	8.33	0.50	0.224	( 0.281)	0.202	0.022
101	8.42	0.50	0.224	( 0.279)	0.202	0.022
102	8.50	0.50	0.224	( 0.278)	0.202	0.022
103	8.58	0.53	0.239	( 0.277)	0.215	0.024
104	8.67	0.53	0.239	( 0.276)	0.215	0.024
105	8.75	0.53	0.239	( 0.274)	0.215	0.024
106	8.83	0.57	0.254	( 0.273)	0.229	0.025
107	8.92	0.57	0.254	( 0.272)	0.229	0.025
108	9.00	0.57	0.254	( 0.270)	0.229	0.025
109	9.08	0.63	0.284	( 0.269)	0.256	0.028
110	9.17	0.63	0.284	( 0.268)	0.256	0.028
111	9.25	0.63	0.284	( 0.267)	0.256	0.028
112	9.33	0.67	0.299	0.265 ( 0.269)		0.034
113	9.42	0.67	0.299	0.264 ( 0.269)		0.035
114	9.50	0.67	0.299	0.263 ( 0.269)		0.036
115	9.58	0.70	0.314	0.261 ( 0.283)		0.053
116	9.67	0.70	0.314	0.260 ( 0.283)		0.054
117	9.75	0.70	0.314	0.259 ( 0.283)		0.055
118	9.83	0.73	0.329	0.258 ( 0.296)		0.071
119	9.92	0.73	0.329	0.256 ( 0.296)		0.073
120	10.00	0.73	0.329	0.255 ( 0.296)		0.074
121	10.08	0.50	0.224	( 0.254)	0.202	0.022
122	10.17	0.50	0.224	( 0.253)	0.202	0.022
123	10.25	0.50	0.224	( 0.252)	0.202	0.022
124	10.33	0.50	0.224	( 0.250)	0.202	0.022
125	10.42	0.50	0.224	( 0.249)	0.202	0.022
126	10.50	0.50	0.224	( 0.248)	0.202	0.022
127	10.58	0.67	0.299	0.247 ( 0.269)		0.052
128	10.67	0.67	0.299	0.245 ( 0.269)		0.054
129	10.75	0.67	0.299	0.244 ( 0.269)		0.055
130	10.83	0.67	0.299	0.243 ( 0.269)		0.056
131	10.92	0.67	0.299	0.242 ( 0.269)		0.057
132	11.00	0.67	0.299	0.241 ( 0.269)		0.058
133	11.08	0.63	0.284	0.240 ( 0.256)		0.045
134	11.17	0.63	0.284	0.238 ( 0.256)		0.046

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

135	11.25	0.63	0.284	0.237	( 0.256)	0.047
136	11.33	0.63	0.284	0.236	( 0.256)	0.048
137	11.42	0.63	0.284	0.235	( 0.256)	0.049
138	11.50	0.63	0.284	0.234	( 0.256)	0.050
139	11.58	0.57	0.254	( 0.233)	0.229	0.025
140	11.67	0.57	0.254	( 0.231)	0.229	0.025
141	11.75	0.57	0.254	( 0.230)	0.229	0.025
142	11.83	0.60	0.269	0.229	( 0.242)	0.040
143	11.92	0.60	0.269	0.228	( 0.242)	0.041
144	12.00	0.60	0.269	0.227	( 0.242)	0.042
145	12.08	0.83	0.374	0.226	( 0.336)	0.148
146	12.17	0.83	0.374	0.225	( 0.336)	0.149
147	12.25	0.83	0.374	0.223	( 0.336)	0.150
148	12.33	0.87	0.389	0.222	( 0.350)	0.167
149	12.42	0.87	0.389	0.221	( 0.350)	0.168
150	12.50	0.87	0.389	0.220	( 0.350)	0.169
151	12.58	0.93	0.419	0.219	( 0.377)	0.200
152	12.67	0.93	0.419	0.218	( 0.377)	0.201
153	12.75	0.93	0.419	0.217	( 0.377)	0.202
154	12.83	0.97	0.434	0.216	( 0.390)	0.218
155	12.92	0.97	0.434	0.215	( 0.390)	0.219
156	13.00	0.97	0.434	0.213	( 0.390)	0.220
157	13.08	1.13	0.508	0.212	( 0.458)	0.296
158	13.17	1.13	0.508	0.211	( 0.458)	0.297
159	13.25	1.13	0.508	0.210	( 0.458)	0.298
160	13.33	1.13	0.508	0.209	( 0.458)	0.299
161	13.42	1.13	0.508	0.208	( 0.458)	0.300
162	13.50	1.13	0.508	0.207	( 0.458)	0.301
163	13.58	0.77	0.344	0.206	( 0.310)	0.138
164	13.67	0.77	0.344	0.205	( 0.310)	0.139
165	13.75	0.77	0.344	0.204	( 0.310)	0.140
166	13.83	0.77	0.344	0.203	( 0.310)	0.141
167	13.92	0.77	0.344	0.202	( 0.310)	0.142
168	14.00	0.77	0.344	0.201	( 0.310)	0.143
169	14.08	0.90	0.404	0.200	( 0.363)	0.204
170	14.17	0.90	0.404	0.199	( 0.363)	0.205
171	14.25	0.90	0.404	0.198	( 0.363)	0.206
172	14.33	0.87	0.389	0.197	( 0.350)	0.192
173	14.42	0.87	0.389	0.196	( 0.350)	0.193
174	14.50	0.87	0.389	0.195	( 0.350)	0.194
175	14.58	0.87	0.389	0.194	( 0.350)	0.195
176	14.67	0.87	0.389	0.193	( 0.350)	0.196
177	14.75	0.87	0.389	0.192	( 0.350)	0.197
178	14.83	0.83	0.374	0.191	( 0.336)	0.183
179	14.92	0.83	0.374	0.190	( 0.336)	0.184
180	15.00	0.83	0.374	0.189	( 0.336)	0.185
181	15.08	0.80	0.359	0.188	( 0.323)	0.171
182	15.17	0.80	0.359	0.187	( 0.323)	0.172
183	15.25	0.80	0.359	0.186	( 0.323)	0.173
184	15.33	0.77	0.344	0.185	( 0.310)	0.159
185	15.42	0.77	0.344	0.184	( 0.310)	0.160
186	15.50	0.77	0.344	0.183	( 0.310)	0.161
187	15.58	0.63	0.284	0.182	( 0.256)	0.102
188	15.67	0.63	0.284	0.181	( 0.256)	0.103
189	15.75	0.63	0.284	0.180	( 0.256)	0.104
190	15.83	0.63	0.284	0.179	( 0.256)	0.105
191	15.92	0.63	0.284	0.178	( 0.256)	0.106
192	16.00	0.63	0.284	0.178	( 0.256)	0.107
193	16.08	0.13	0.060	( 0.177)	0.054	0.006
194	16.17	0.13	0.060	( 0.176)	0.054	0.006
195	16.25	0.13	0.060	( 0.175)	0.054	0.006
196	16.33	0.13	0.060	( 0.174)	0.054	0.006
197	16.42	0.13	0.060	( 0.173)	0.054	0.006



# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

198	16.50	0.13	0.060	( 0.172)	0.054	0.006
199	16.58	0.10	0.045	( 0.171)	0.040	0.004
200	16.67	0.10	0.045	( 0.170)	0.040	0.004
201	16.75	0.10	0.045	( 0.170)	0.040	0.004
202	16.83	0.10	0.045	( 0.169)	0.040	0.004
203	16.92	0.10	0.045	( 0.168)	0.040	0.004
204	17.00	0.10	0.045	( 0.167)	0.040	0.004
205	17.08	0.17	0.075	( 0.166)	0.067	0.007
206	17.17	0.17	0.075	( 0.165)	0.067	0.007
207	17.25	0.17	0.075	( 0.164)	0.067	0.007
208	17.33	0.17	0.075	( 0.164)	0.067	0.007
209	17.42	0.17	0.075	( 0.163)	0.067	0.007
210	17.50	0.17	0.075	( 0.162)	0.067	0.007
211	17.58	0.17	0.075	( 0.161)	0.067	0.007
212	17.67	0.17	0.075	( 0.160)	0.067	0.007
213	17.75	0.17	0.075	( 0.160)	0.067	0.007
214	17.83	0.13	0.060	( 0.159)	0.054	0.006
215	17.92	0.13	0.060	( 0.158)	0.054	0.006
216	18.00	0.13	0.060	( 0.157)	0.054	0.006
217	18.08	0.13	0.060	( 0.156)	0.054	0.006
218	18.17	0.13	0.060	( 0.156)	0.054	0.006
219	18.25	0.13	0.060	( 0.155)	0.054	0.006
220	18.33	0.13	0.060	( 0.154)	0.054	0.006
221	18.42	0.13	0.060	( 0.153)	0.054	0.006
222	18.50	0.13	0.060	( 0.153)	0.054	0.006
223	18.58	0.10	0.045	( 0.152)	0.040	0.004
224	18.67	0.10	0.045	( 0.151)	0.040	0.004
225	18.75	0.10	0.045	( 0.150)	0.040	0.004
226	18.83	0.07	0.030	( 0.150)	0.027	0.003
227	18.92	0.07	0.030	( 0.149)	0.027	0.003
228	19.00	0.07	0.030	( 0.148)	0.027	0.003
229	19.08	0.10	0.045	( 0.148)	0.040	0.004
230	19.17	0.10	0.045	( 0.147)	0.040	0.004
231	19.25	0.10	0.045	( 0.146)	0.040	0.004
232	19.33	0.13	0.060	( 0.146)	0.054	0.006
233	19.42	0.13	0.060	( 0.145)	0.054	0.006
234	19.50	0.13	0.060	( 0.144)	0.054	0.006
235	19.58	0.10	0.045	( 0.144)	0.040	0.004
236	19.67	0.10	0.045	( 0.143)	0.040	0.004
237	19.75	0.10	0.045	( 0.142)	0.040	0.004
238	19.83	0.07	0.030	( 0.142)	0.027	0.003
239	19.92	0.07	0.030	( 0.141)	0.027	0.003
240	20.00	0.07	0.030	( 0.140)	0.027	0.003
241	20.08	0.10	0.045	( 0.140)	0.040	0.004
242	20.17	0.10	0.045	( 0.139)	0.040	0.004
243	20.25	0.10	0.045	( 0.139)	0.040	0.004
244	20.33	0.10	0.045	( 0.138)	0.040	0.004
245	20.42	0.10	0.045	( 0.137)	0.040	0.004
246	20.50	0.10	0.045	( 0.137)	0.040	0.004
247	20.58	0.10	0.045	( 0.136)	0.040	0.004
248	20.67	0.10	0.045	( 0.136)	0.040	0.004
249	20.75	0.10	0.045	( 0.135)	0.040	0.004
250	20.83	0.07	0.030	( 0.134)	0.027	0.003
251	20.92	0.07	0.030	( 0.134)	0.027	0.003
252	21.00	0.07	0.030	( 0.133)	0.027	0.003
253	21.08	0.10	0.045	( 0.133)	0.040	0.004
254	21.17	0.10	0.045	( 0.132)	0.040	0.004
255	21.25	0.10	0.045	( 0.132)	0.040	0.004
256	21.33	0.07	0.030	( 0.131)	0.027	0.003
257	21.42	0.07	0.030	( 0.131)	0.027	0.003
258	21.50	0.07	0.030	( 0.130)	0.027	0.003
259	21.58	0.10	0.045	( 0.130)	0.040	0.004
260	21.67	0.10	0.045	( 0.129)	0.040	0.004

**Keller Crossing**  
**ATTACHMENT C – Inflow Hydrographs, Existing Condition**

261	21.75	0.10	0.045	( 0.129)	0.040	0.004
262	21.83	0.07	0.030	( 0.129)	0.027	0.003
263	21.92	0.07	0.030	( 0.128)	0.027	0.003
264	22.00	0.07	0.030	( 0.128)	0.027	0.003
265	22.08	0.10	0.045	( 0.127)	0.040	0.004
266	22.17	0.10	0.045	( 0.127)	0.040	0.004
267	22.25	0.10	0.045	( 0.126)	0.040	0.004
268	22.33	0.07	0.030	( 0.126)	0.027	0.003
269	22.42	0.07	0.030	( 0.126)	0.027	0.003
270	22.50	0.07	0.030	( 0.125)	0.027	0.003
271	22.58	0.07	0.030	( 0.125)	0.027	0.003
272	22.67	0.07	0.030	( 0.125)	0.027	0.003
273	22.75	0.07	0.030	( 0.124)	0.027	0.003
274	22.83	0.07	0.030	( 0.124)	0.027	0.003
275	22.92	0.07	0.030	( 0.124)	0.027	0.003
276	23.00	0.07	0.030	( 0.123)	0.027	0.003
277	23.08	0.07	0.030	( 0.123)	0.027	0.003
278	23.17	0.07	0.030	( 0.123)	0.027	0.003
279	23.25	0.07	0.030	( 0.122)	0.027	0.003
280	23.33	0.07	0.030	( 0.122)	0.027	0.003
281	23.42	0.07	0.030	( 0.122)	0.027	0.003
282	23.50	0.07	0.030	( 0.122)	0.027	0.003
283	23.58	0.07	0.030	( 0.122)	0.027	0.003
284	23.67	0.07	0.030	( 0.121)	0.027	0.003
285	23.75	0.07	0.030	( 0.121)	0.027	0.003
286	23.83	0.07	0.030	( 0.121)	0.027	0.003
287	23.92	0.07	0.030	( 0.121)	0.027	0.003
288	24.00	0.07	0.030	( 0.121)	0.027	0.003

(Loss Rate Not Used)  
Sum = 100.0 Sum = 12.0

Flood volume = Effective rainfall 1.00 (In)  
times area 91.5 (Ac.) / [(In) / (Ft.)] = 7.6 (Ac.Ft)  
Total soil loss = 2.74 (In)  
Total soil loss = 20.908 (Ac.Ft)  
Total rainfall = 3.74 (In)  
Flood volume = 331006.5 Cubic Feet  
Total soil loss = 910760.4 Cubic Feet

-----  
Peak flow rate of this hydrograph = 26.514 (CFS)  
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24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
-----

Hydrograph in 5 Minute intervals ((CFS))  
-----

Time (h+m)	Volume Ac.Ft	Q (CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0001	0.02	Q				
0+10	0.0008	0.10	Q				
0+15	0.0020	0.18	Q				
0+20	0.0036	0.22	Q				
0+25	0.0055	0.28	Q				
0+30	0.0077	0.33	Q				
0+35	0.0102	0.35	Q				
0+40	0.0127	0.37	Q				
0+45	0.0153	0.38	Q				
0+50	0.0181	0.40	Q				
0+55	0.0212	0.45	Q				
1+ 0	0.0245	0.49	Q				
1+ 5	0.0280	0.50	Q				
1+10	0.0312	0.47	Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+15	0.0343	0.44	Q				
1+20	0.0373	0.43	Q				
1+25	0.0402	0.43	Q				
1+30	0.0431	0.42	Q				
1+35	0.0460	0.42	Q				
1+40	0.0489	0.42	Q				
1+45	0.0518	0.42	Q				
1+50	0.0547	0.43	Q				
1+55	0.0579	0.47	Q				
2+ 0	0.0614	0.51	Q				
2+ 5	0.0650	0.52	Q				
2+10	0.0687	0.53	Q				
2+15	0.0723	0.53	Q				
2+20	0.0760	0.54	Q				
2+25	0.0798	0.54	Q				
2+30	0.0835	0.54	Q				
2+35	0.0874	0.56	Q				
2+40	0.0915	0.60	Q				
2+45	0.0959	0.64	Q				
2+50	0.1004	0.66	Q				
2+55	0.1050	0.66	Q				
3+ 0	0.1096	0.67	Q				
3+ 5	0.1142	0.68	Q				
3+10	0.1189	0.68	Q				
3+15	0.1236	0.68	Q				
3+20	0.1283	0.68	Q				
3+25	0.1331	0.69	Q				
3+30	0.1378	0.69	Q				
3+35	0.1425	0.69	Q				
3+40	0.1473	0.69	Q				
3+45	0.1520	0.69	Q				
3+50	0.1568	0.70	Q				
3+55	0.1619	0.74	Q				
4+ 0	0.1673	0.78	VQ				
4+ 5	0.1728	0.79	VQ				
4+10	0.1783	0.80	VQ				
4+15	0.1839	0.81	VQ				
4+20	0.1896	0.82	VQ				
4+25	0.1955	0.87	IQ				
4+30	0.2018	0.91	IQ				
4+35	0.2082	0.93	IQ				
4+40	0.2146	0.94	IQ				
4+45	0.2212	0.95	IQ				
4+50	0.2278	0.96	IQ				
4+55	0.2347	1.00	IQ				
5+ 0	0.2419	1.05	IQ				
5+ 5	0.2491	1.05	IQ				
5+10	0.2558	0.98	IQ				
5+15	0.2621	0.91	IQ				
5+20	0.2682	0.89	IQ				
5+25	0.2745	0.91	IQ				
5+30	0.2810	0.94	IQ				
5+35	0.2876	0.96	IQ				
5+40	0.2946	1.01	IQ				
5+45	0.3018	1.05	IQ				
5+50	0.3091	1.07	IQ				
5+55	0.3166	1.08	IQ				
6+ 0	0.3240	1.08	IQ				
6+ 5	0.3316	1.10	IQ				
6+10	0.3394	1.14	IQ				
6+15	0.3476	1.18	IQ				
6+20	0.3559	1.20	IQ				
6+25	0.3642	1.21	IQ				

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

6+30	0.3726	1.22	Q				
6+35	0.3811	1.24	QV				
6+40	0.3900	1.28	QV				
6+45	0.3991	1.32	QV				
6+50	0.4083	1.34	QV				
6+55	0.4176	1.35	QV				
7+ 0	0.4270	1.36	QV				
7+ 5	0.4364	1.36	QV				
7+10	0.4458	1.37	QV				
7+15	0.4552	1.37	QV				
7+20	0.4648	1.38	QV				
7+25	0.4746	1.43	QV				
7+30	0.4847	1.47	QV				
7+35	0.4950	1.49	QV				
7+40	0.5056	1.54	Q				
7+45	0.5165	1.59	Q				
7+50	0.5277	1.62	Q				
7+55	0.5392	1.67	Q				
8+ 0	0.5510	1.72	Q				
8+ 5	0.5632	1.76	Q				
8+10	0.5759	1.86	QV				
8+15	0.5893	1.94	QV				
8+20	0.6030	1.98	QV				
8+25	0.6168	2.01	QV				
8+30	0.6307	2.02	QV				
8+35	0.6448	2.05	QV				
8+40	0.6592	2.09	QV				
8+45	0.6740	2.14	QV				
8+50	0.6889	2.17	QV				
8+55	0.7043	2.22	QV				
9+ 0	0.7199	2.27	Q				
9+ 5	0.7359	2.31	Q				
9+10	0.7524	2.41	Q				
9+15	0.7696	2.50	QV				
9+20	0.7874	2.57	QV				
9+25	0.8063	2.75	QV				
9+30	0.8266	2.95	QV				
9+35	0.8485	3.19	Q				
9+40	0.8741	3.72	Q				
9+45	0.9033	4.24	VQ				
9+50	0.9351	4.61	V Q				
9+55	0.9711	5.23	VQ				
10+ 0	1.0110	5.80	V Q				
10+ 5	1.0509	5.79	V Q				
10+10	1.0826	4.61	VQ				
10+15	1.1060	3.40	QV				
10+20	1.1262	2.93	Q V				
10+25	1.1448	2.70	Q V				
10+30	1.1623	2.54	Q V				
10+35	1.1803	2.62	Q V				
10+40	1.2034	3.35	Q V				
10+45	1.2317	4.12	QV				
10+50	1.2624	4.46	QV				
10+55	1.2946	4.68	Q				
11+ 0	1.3281	4.86	Q				
11+ 5	1.3620	4.92	QV				
11+10	1.3941	4.66	QV				
11+15	1.4243	4.38	Q V				
11+20	1.4544	4.37	Q V				
11+25	1.4848	4.41	Q V				
11+30	1.5156	4.48	Q V				
11+35	1.5459	4.40	Q V				
11+40	1.5719	3.77	Q V				

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

11+45	1.5936	3.15	Q	V								
11+50	1.6141	2.98	Q	V								
11+55	1.6363	3.23	Q	V								
12+ 0	1.6608	3.55	Q	V								
12+ 5	1.6909	4.37	Q	V								
12+10	1.7412	7.30		Q								
12+15	1.8110	10.14		V	Q							
12+20	1.8900	11.47		V	Q							
12+25	1.9768	12.60		V	Q							
12+30	2.0700	13.53		V	Q							
12+35	2.1685	14.30		V	Q							
12+40	2.2754	15.53		V	Q							
12+45	2.3900	16.63		V	Q							
12+50	2.5095	17.35		V	Q							
12+55	2.6347	18.19		V	Q							
13+ 0	2.7651	18.92		V	Q							
13+ 5	2.9017	19.83		V	Q							
13+10	3.0544	22.17		V	Q							
13+15	3.2225	24.42		V	Q							
13+20	3.3977	25.43		V	Q							
13+25	3.5770	26.05		V	Q							
13+30	3.7596	26.51		V	Q							
13+35	3.9376	25.83		V	Q							
13+40	4.0870	21.69		V	Q							
13+45	4.2085	17.65		V	Q							
13+50	4.3193	16.08		V	Q							
13+55	4.4245	15.28		V	Q							
14+ 0	4.5261	14.76		V	Q							
14+ 5	4.6280	14.79		V	Q							
14+10	4.7394	16.17		V	Q							
14+15	4.8607	17.62		V	Q							
14+20	4.9849	18.03		V	Q							
14+25	5.1083	17.91		V	Q							
14+30	5.2303	17.72		V	Q							
14+35	5.3525	17.73		V	Q							
14+40	5.4749	17.79		V	Q							
14+45	5.5975	17.80		V	Q							
14+50	5.7204	17.84		V	Q							
14+55	5.8413	17.55		V	Q							
15+ 0	5.9603	17.28		V	Q							
15+ 5	6.0783	17.13		V	Q							
15+10	6.1936	16.74		V	Q							
15+15	6.3066	16.41		V	Q							
15+20	6.4181	16.19		V	Q							
15+25	6.5265	15.74		V	Q							
15+30	6.6321	15.34		V	Q							
15+35	6.7343	14.83		V	Q							
15+40	6.8249	13.16		V	Q							
15+45	6.9047	11.59		V	Q							
15+50	6.9801	10.95		V	Q							
15+55	7.0533	10.62		V	Q							
16+ 0	7.1250	10.41		V	Q							
16+ 5	7.1915	9.65		V	Q							
16+10	7.2386	6.84		V	Q							
16+15	7.2669	4.12		V	Q							
16+20	7.2873	2.95		V	Q							
16+25	7.3031	2.30		V	Q							
16+30	7.3157	1.83		V	Q							
16+35	7.3259	1.49		V	Q							
16+40	7.3342	1.21		V	Q							
16+45	7.3409	0.97		V	Q							
16+50	7.3465	0.81		V	Q							
16+55	7.3513	0.70		V	Q							

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

17+ 0	7.3555	0.61	Q				V	
17+ 5	7.3594	0.57	Q				V	
17+10	7.3635	0.59	Q				V	
17+15	7.3676	0.60	Q				V	
17+20	7.3719	0.63	Q				V	
17+25	7.3764	0.65	Q				V	
17+30	7.3809	0.66	Q				V	
17+35	7.3855	0.67	Q				V	
17+40	7.3901	0.67	Q				V	
17+45	7.3948	0.67	Q				V	
17+50	7.3994	0.67	Q				V	
17+55	7.4037	0.63	Q				V	
18+ 0	7.4078	0.60	Q				V	
18+ 5	7.4118	0.58	Q				V	
18+10	7.4158	0.57	Q				V	
18+15	7.4197	0.57	Q				V	
18+20	7.4236	0.57	Q				V	
18+25	7.4275	0.56	Q				V	
18+30	7.4313	0.56	Q				V	
18+35	7.4351	0.55	Q				V	
18+40	7.4386	0.51	Q				V	
18+45	7.4418	0.47	Q				V	
18+50	7.4448	0.44	Q				V	
18+55	7.4475	0.39	Q				V	
19+ 0	7.4499	0.34	Q				V	
19+ 5	7.4521	0.33	Q				V	
19+10	7.4546	0.36	Q				V	
19+15	7.4573	0.39	Q				V	
19+20	7.4601	0.41	Q				V	
19+25	7.4632	0.45	Q				V	
19+30	7.4667	0.50	Q				V	
19+35	7.4701	0.50	Q				V	
19+40	7.4734	0.47	Q				V	
19+45	7.4764	0.44	Q				V	
19+50	7.4793	0.42	Q				V	
19+55	7.4819	0.38	Q				V	
20+ 0	7.4842	0.33	Q				V	
20+ 5	7.4864	0.32	Q				V	
20+10	7.4889	0.35	Q				V	
20+15	7.4915	0.39	Q				V	
20+20	7.4943	0.40	Q				V	
20+25	7.4970	0.40	Q				V	
20+30	7.4998	0.41	Q				V	
20+35	7.5027	0.41	Q				V	
20+40	7.5055	0.41	Q				V	
20+45	7.5083	0.41	Q				V	
20+50	7.5111	0.40	Q				V	
20+55	7.5135	0.36	Q				V	
21+ 0	7.5158	0.32	Q				V	
21+ 5	7.5179	0.32	Q				V	
21+10	7.5203	0.35	Q				V	
21+15	7.5230	0.38	Q				V	
21+20	7.5256	0.38	Q				V	
21+25	7.5280	0.35	Q				V	
21+30	7.5302	0.31	Q				V	
21+35	7.5323	0.31	Q				V	
21+40	7.5347	0.34	Q				V	
21+45	7.5373	0.38	Q				V	
21+50	7.5399	0.38	Q				V	
21+55	7.5423	0.35	Q				V	
22+ 0	7.5445	0.31	Q				V	
22+ 5	7.5466	0.31	Q				V	
22+10	7.5490	0.34	Q				V	

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

22+15	7.5516	0.38	Q				V
22+20	7.5542	0.38	Q				V
22+25	7.5566	0.35	Q				V
22+30	7.5587	0.31	Q				V
22+35	7.5608	0.30	Q				V
22+40	7.5628	0.29	Q				V
22+45	7.5648	0.29	Q				V
22+50	7.5668	0.29	Q				V
22+55	7.5687	0.28	Q				V
23+ 0	7.5707	0.28	Q				V
23+ 5	7.5726	0.28	Q				V
23+10	7.5745	0.28	Q				V
23+15	7.5764	0.28	Q				V
23+20	7.5783	0.28	Q				V
23+25	7.5802	0.28	Q				V
23+30	7.5821	0.28	Q				V
23+35	7.5840	0.28	Q				V
23+40	7.5859	0.28	Q				V
23+45	7.5878	0.28	Q				V
23+50	7.5897	0.28	Q				V
23+55	7.5916	0.28	Q				V
24+ 0	7.5935	0.28	Q				V
24+ 5	7.5953	0.26	Q				V
24+10	7.5965	0.18	Q				V
24+15	7.5972	0.10	Q				V
24+20	7.5977	0.07	Q				V
24+25	7.5980	0.05	Q				V
24+30	7.5982	0.04	Q				V
24+35	7.5984	0.03	Q				V
24+40	7.5986	0.02	Q				V
24+45	7.5987	0.02	Q				V
24+50	7.5987	0.01	Q				V
24+55	7.5988	0.01	Q				V
25+ 0	7.5988	0.01	Q				V
25+ 5	7.5989	0.00	Q				V
25+10	7.5989	0.00	Q				V

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kxexh1100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
100-year 1-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 100.00



# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 2-Year Rainfall = 0.528(In)  
 Area Averaged 100-Year Rainfall = 1.590(In)

Point rain (area averaged) = 1.590(In)  
 Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 1.589(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	91.1	0.115	0.000	0.115	1.000	0.115
						Sum (F) = 0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115  
 Minimum soil loss rate ((In/Hr)) = 0.058  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

U n i t H y d r o g r a p h  
 VALLEY S-Curve

-----  
 Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	4.40	0.839	0.115 ( 0.755)	0.723
2	0.17	4.50	0.858	0.115 ( 0.772)	0.742
3	0.25	5.40	1.029	0.115 ( 0.927)	0.914
4	0.33	5.40	1.029	0.115 ( 0.927)	0.914
5	0.42	5.70	1.087	0.115 ( 0.978)	0.971
6	0.50	6.40	1.220	0.115 ( 1.098)	1.105

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

7	0.58	7.90	1.506	0.115	( 1.355)	1.391
8	0.67	9.10	1.735	0.115	( 1.561)	1.619
9	0.75	12.80	2.440	0.115	( 2.196)	2.325
10	0.83	25.60	4.880	0.115	( 4.392)	4.765
11	0.92	7.90	1.506	0.115	( 1.355)	1.391
12	1.00	4.90	0.934	0.115	( 0.841)	0.819

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.7

Flood volume = Effective rainfall 1.47(In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 11.2 (Ac.Ft)  
Total soil loss = 0.12(In)  
Total soil loss = 0.880(Ac.Ft)  
Total rainfall = 1.59(In)  
Flood volume = 489329.8 Cubic Feet  
Total soil loss = 38342.8 Cubic Feet

-----  
Peak flow rate of this hydrograph = 236.581(CFS)  
-----

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1 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	75.0	150.0	225.0	300.0
0+ 5	0.0315	4.57	Q				
0+10	0.1981	24.19	V Q				
0+15	0.5058	44.67	V Q				
0+20	0.9028	57.64	V Q				
0+25	1.3643	67.02	V Q				
0+30	1.8766	74.38	V Q				
0+35	2.4589	84.55	V Q				
0+40	3.1488	100.17	V Q				
0+45	3.9875	121.78	V Q				
0+50	5.1427	167.75	V Q				
0+55	6.7721	236.58	V Q				
1+ 0	8.2688	217.32	V Q				
1+ 5	9.2478	142.16	V Q				
1+10	9.8555	88.23	V Q				
1+15	10.2308	54.50	V Q				
1+20	10.4932	38.10	V Q				
1+25	10.6869	28.13	V Q				
1+30	10.8326	21.16	V Q				
1+35	10.9469	16.60	V Q				
1+40	11.0342	12.67	V Q				
1+45	11.1014	9.76	V Q				
1+50	11.1512	7.23	V Q				
1+55	11.1892	5.51	V Q				
2+ 0	11.2201	4.49	V Q				
2+ 5	11.2296	1.37	V Q				
2+10	11.2335	0.57	V Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kxexh3100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
100-year 3-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 3 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 0.911 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 100-Year Rainfall = 2.330(In)

Point rain (area averaged) = 2.330(In)  
 Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 2.329(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	91.1	0.115	0.000	0.115	1.000	0.115
						Sum (F) = 0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115  
 Minimum soil loss rate ((In/Hr)) = 0.058  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time	% of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852	6.319
2	0.167	107.406	29.212	26.938
3	0.250	161.109	28.296	26.093
4	0.333	214.812	11.756	10.841
5	0.417	268.515	6.492	5.987
6	0.500	322.218	4.496	4.146
7	0.583	375.921	3.239	2.987
8	0.667	429.624	2.380	2.195
9	0.750	483.328	1.763	1.625
10	0.833	537.031	1.517	1.399
11	0.917	590.734	1.140	1.052
12	1.000	644.437	0.899	0.829
13	1.083	698.140	0.669	0.617
14	1.167	751.843	0.538	0.496
15	1.250	805.546	0.750	0.692
Sum = 100.000			Sum=	92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	1.30	0.363	( 0.327)	0.248
2	0.17	1.30	0.363	( 0.327)	0.248
3	0.25	1.10	0.307	( 0.277)	0.192
4	0.33	1.50	0.419	( 0.377)	0.304
5	0.42	1.50	0.419	( 0.377)	0.304
6	0.50	1.80	0.503	( 0.453)	0.388
7	0.58	1.50	0.419	( 0.377)	0.304
8	0.67	1.80	0.503	( 0.453)	0.388
9	0.75	1.80	0.503	( 0.453)	0.388

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

10	0.83	1.50	0.419	0.115	( 0.377)	0.304
11	0.92	1.60	0.447	0.115	( 0.402)	0.332
12	1.00	1.80	0.503	0.115	( 0.453)	0.388
13	1.08	2.20	0.615	0.115	( 0.553)	0.499
14	1.17	2.20	0.615	0.115	( 0.553)	0.499
15	1.25	2.20	0.615	0.115	( 0.553)	0.499
16	1.33	2.00	0.559	0.115	( 0.503)	0.444
17	1.42	2.60	0.727	0.115	( 0.654)	0.611
18	1.50	2.70	0.755	0.115	( 0.679)	0.639
19	1.58	2.40	0.671	0.115	( 0.604)	0.555
20	1.67	2.70	0.755	0.115	( 0.679)	0.639
21	1.75	3.30	0.922	0.115	( 0.830)	0.807
22	1.83	3.10	0.866	0.115	( 0.780)	0.751
23	1.92	2.90	0.811	0.115	( 0.729)	0.695
24	2.00	3.00	0.838	0.115	( 0.755)	0.723
25	2.08	3.10	0.866	0.115	( 0.780)	0.751
26	2.17	4.20	1.174	0.115	( 1.056)	1.058
27	2.25	5.00	1.397	0.115	( 1.258)	1.282
28	2.33	3.50	0.978	0.115	( 0.880)	0.863
29	2.42	6.80	1.901	0.115	( 1.710)	1.785
30	2.50	7.30	2.040	0.115	( 1.836)	1.925
31	2.58	8.20	2.292	0.115	( 2.063)	2.176
32	2.67	5.90	1.649	0.115	( 1.484)	1.534
33	2.75	2.00	0.559	0.115	( 0.503)	0.444
34	2.83	1.80	0.503	0.115	( 0.453)	0.388
35	2.92	1.80	0.503	0.115	( 0.453)	0.388
36	3.00	0.60	0.168	0.115	( 0.151)	0.052

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.98 (In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 15.1 (Ac.Ft)  
Total soil loss = 0.35 (In)  
Total soil loss = 2.641 (Ac.Ft)  
Total rainfall = 2.33 (In)  
Flood volume = 658559.6 Cubic Feet  
Total soil loss = 115028.5 Cubic Feet

-----  
Peak flow rate of this hydrograph = 157.983 (CFS)  
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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0108	1.57	Q				
0+10	0.0676	8.25	VQ				
0+15	0.1665	14.37	V Q				
0+20	0.2785	16.26	V Q				
0+25	0.4114	19.29	V Q				
0+30	0.5709	23.17	V Q				
0+35	0.7535	26.51	V Q				
0+40	0.9460	27.95	V Q				
0+45	1.1501	29.63	V Q				
0+50	1.3667	31.44	V Q				
0+55	1.5770	30.53	V Q				
1+ 0	1.7847	30.16	V Q				
1+ 5	2.0101	32.73	VQ				
1+10	2.2677	37.40	V Q				
1+15	2.5510	41.14	V Q				

## Keller Crossing ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+20	2.8427	42.35		VQ					
1+25	3.1376	42.82		Q					
1+30	3.4596	46.76		Q					
1+35	3.8122	51.20		Q					
1+40	4.1706	52.04		QV					
1+45	4.5455	54.45		Q	V				
1+50	4.9645	60.83			QV				
1+55	5.4080	64.39			Q	V			
2+ 0	5.8489	64.02			Q	V			
2+ 5	6.2921	64.36			Q	V			
2+10	6.7599	67.92			Q	V			
2+15	7.3032	78.88			Q	V			
2+20	7.9291	90.88				Q	V		
2+25	8.5832	94.98				Q	V		
2+30	9.3706	114.34					Q	V	
2+35	10.3496	142.14						VQ	
2+40	11.4376	157.98						VQ	
2+45	12.4503	147.04						Q	V
2+50	13.1926	107.79						Q	V
2+55	13.7138	75.68			Q				V
3+ 0	14.1260	59.84			Q				V
3+ 5	14.4229	43.12			Q				V
3+10	14.6173	28.22			Q				V
3+15	14.7540	19.85		Q					V
3+20	14.8573	15.00		Q					V
3+25	14.9358	11.40		Q					V
3+30	14.9933	8.35		Q					V
3+35	15.0385	6.56		Q					V
3+40	15.0713	4.76		Q					V
3+45	15.0943	3.34		Q					V
3+50	15.1074	1.90		Q					V
3+55	15.1128	0.78		Q					V
4+ 0	15.1162	0.49		Q					V
4+ 5	15.1182	0.29		Q					V
4+10	15.1184	0.04		Q					V

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kxexh6100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
100-year 6-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 1.290 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 100-Year Rainfall = 3.170(In)

Point rain (area averaged) = 3.170(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 3.169(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	91.1	0.115	0.000	0.115	1.000	0.115
						Sum (F) = 0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115  
 Minimum soil loss rate ((In/Hr)) = 0.058  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852
2	0.167	107.406	29.212
3	0.250	161.109	28.296
4	0.333	214.812	11.756
5	0.417	268.515	6.492
6	0.500	322.218	4.496
7	0.583	375.921	3.239
8	0.667	429.624	2.380
9	0.750	483.328	1.763
10	0.833	537.031	1.517
11	0.917	590.734	1.140
12	1.000	644.437	0.899
13	1.083	698.140	0.669
14	1.167	751.843	0.538
15	1.250	805.546	0.750
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.50	0.115	( 0.171)	0.075
2	0.17	0.60	0.115	( 0.205)	0.113
3	0.25	0.60	0.115	( 0.205)	0.113
4	0.33	0.60	0.115	( 0.205)	0.113
5	0.42	0.60	0.115	( 0.205)	0.113
6	0.50	0.70	0.115	( 0.240)	0.151
7	0.58	0.70	0.115	( 0.240)	0.151
8	0.67	0.70	0.115	( 0.240)	0.151
9	0.75	0.70	0.115	( 0.240)	0.151



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

10	0.83	0.70	0.266	0.115	( 0.240)	0.151
11	0.92	0.70	0.266	0.115	( 0.240)	0.151
12	1.00	0.80	0.304	0.115	( 0.274)	0.189
13	1.08	0.80	0.304	0.115	( 0.274)	0.189
14	1.17	0.80	0.304	0.115	( 0.274)	0.189
15	1.25	0.80	0.304	0.115	( 0.274)	0.189
16	1.33	0.80	0.304	0.115	( 0.274)	0.189
17	1.42	0.80	0.304	0.115	( 0.274)	0.189
18	1.50	0.80	0.304	0.115	( 0.274)	0.189
19	1.58	0.80	0.304	0.115	( 0.274)	0.189
20	1.67	0.80	0.304	0.115	( 0.274)	0.189
21	1.75	0.80	0.304	0.115	( 0.274)	0.189
22	1.83	0.80	0.304	0.115	( 0.274)	0.189
23	1.92	0.80	0.304	0.115	( 0.274)	0.189
24	2.00	0.90	0.342	0.115	( 0.308)	0.227
25	2.08	0.80	0.304	0.115	( 0.274)	0.189
26	2.17	0.90	0.342	0.115	( 0.308)	0.227
27	2.25	0.90	0.342	0.115	( 0.308)	0.227
28	2.33	0.90	0.342	0.115	( 0.308)	0.227
29	2.42	0.90	0.342	0.115	( 0.308)	0.227
30	2.50	0.90	0.342	0.115	( 0.308)	0.227
31	2.58	0.90	0.342	0.115	( 0.308)	0.227
32	2.67	0.90	0.342	0.115	( 0.308)	0.227
33	2.75	1.00	0.380	0.115	( 0.342)	0.265
34	2.83	1.00	0.380	0.115	( 0.342)	0.265
35	2.92	1.00	0.380	0.115	( 0.342)	0.265
36	3.00	1.00	0.380	0.115	( 0.342)	0.265
37	3.08	1.00	0.380	0.115	( 0.342)	0.265
38	3.17	1.10	0.418	0.115	( 0.376)	0.303
39	3.25	1.10	0.418	0.115	( 0.376)	0.303
40	3.33	1.10	0.418	0.115	( 0.376)	0.303
41	3.42	1.20	0.456	0.115	( 0.411)	0.341
42	3.50	1.30	0.494	0.115	( 0.445)	0.379
43	3.58	1.40	0.532	0.115	( 0.479)	0.417
44	3.67	1.40	0.532	0.115	( 0.479)	0.417
45	3.75	1.50	0.570	0.115	( 0.513)	0.455
46	3.83	1.50	0.570	0.115	( 0.513)	0.455
47	3.92	1.60	0.608	0.115	( 0.548)	0.493
48	4.00	1.60	0.608	0.115	( 0.548)	0.493
49	4.08	1.70	0.646	0.115	( 0.582)	0.531
50	4.17	1.80	0.685	0.115	( 0.616)	0.569
51	4.25	1.90	0.723	0.115	( 0.650)	0.607
52	4.33	2.00	0.761	0.115	( 0.685)	0.645
53	4.42	2.10	0.799	0.115	( 0.719)	0.683
54	4.50	2.10	0.799	0.115	( 0.719)	0.683
55	4.58	2.20	0.837	0.115	( 0.753)	0.721
56	4.67	2.30	0.875	0.115	( 0.787)	0.759
57	4.75	2.40	0.913	0.115	( 0.821)	0.797
58	4.83	2.40	0.913	0.115	( 0.821)	0.797
59	4.92	2.50	0.951	0.115	( 0.856)	0.835
60	5.00	2.60	0.989	0.115	( 0.890)	0.873
61	5.08	3.10	1.179	0.115	( 1.061)	1.063
62	5.17	3.60	1.369	0.115	( 1.232)	1.254
63	5.25	3.90	1.483	0.115	( 1.335)	1.368
64	5.33	4.20	1.597	0.115	( 1.437)	1.482
65	5.42	4.70	1.787	0.115	( 1.609)	1.672
66	5.50	5.60	2.130	0.115	( 1.917)	2.014
67	5.58	1.90	0.723	0.115	( 0.650)	0.607
68	5.67	0.90	0.342	0.115	( 0.308)	0.227
69	5.75	0.60	0.228	0.115	( 0.205)	0.113
70	5.83	0.50	0.190	0.115	( 0.171)	0.075
71	5.92	0.30	0.114	( 0.115)	0.103	0.011
72	6.00	0.20	0.076	( 0.115)	0.068	0.008

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

(Loss Rate Not Used)

Sum = 100.0 Sum = 29.8

Flood volume = Effective rainfall 2.48 (In)  
times area 91.5(Ac.) / [(In) / (Ft.)] = 18.9 (Ac.Ft)

Total soil loss = 0.69 (In)  
Total soil loss = 5.243 (Ac.Ft)  
Total rainfall = 3.17 (In)  
Flood volume = 824165.5 Cubic Feet  
Total soil loss = 228403.0 Cubic Feet

-----  
Peak flow rate of this hydrograph = 141.529 (CFS)  
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6 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
-----

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0033	0.47	Q				
0+10	0.0220	2.73	Q				
0+15	0.0613	5.70	VQ				
0+20	0.1130	7.50	VQ				
0+25	0.1706	8.36	VQ				
0+30	0.2335	9.14	VQ				
0+35	0.3062	10.55	V Q				
0+40	0.3876	11.82	V Q				
0+45	0.4732	12.44	VQ				
0+50	0.5616	12.83	VQ				
0+55	0.6519	13.12	VQ				
1+ 0	0.7454	13.58	VQ				
1+ 5	0.8471	14.76	VQ				
1+10	0.9564	15.88	VQ				
1+15	1.0695	16.41	VQ				
1+20	1.1845	16.71	VQ				
1+25	1.3009	16.90	VQ				
1+30	1.4182	17.03	VQ				
1+35	1.5362	17.14	Q				
1+40	1.6549	17.22	Q				
1+45	1.7739	17.28	Q				
1+50	1.8931	17.32	QV				
1+55	2.0126	17.35	QV				
2+ 0	2.1339	17.61	QV				
2+ 5	2.2607	18.42	QV				
2+10	2.3892	18.65	Q V				
2+15	2.5207	19.10	Q V				
2+20	2.6578	19.90	Q V				
2+25	2.7972	20.25	QV				
2+30	2.9379	20.43	Q V				
2+35	3.0795	20.56	Q V				
2+40	3.2217	20.65	Q V				
2+45	3.3661	20.96	Q V				
2+50	3.5179	22.04	Q V				
2+55	3.6768	23.08	Q V				
3+ 0	3.8388	23.52	Q V				
3+ 5	4.0025	23.77	Q V				
3+10	4.1692	24.20	Q V				
3+15	4.3437	25.34	Q V				
3+20	4.5258	26.44	Q V				
3+25	4.7128	27.15	Q V				
3+30	4.9104	28.70	Q V				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

3+35	5.1250	31.15		Q	V				
3+40	5.3573	33.73		Q	V				
3+45	5.6032	35.71		Q	V				
3+50	5.8623	37.61		Q	V				
3+55	6.1338	39.43		Q	V				
4+ 0	6.4180	41.26		Q	V				
4+ 5	6.7142	43.01		Q	V				
4+10	7.0246	45.07		Q	V				
4+15	7.3540	47.84		Q	V				
4+20	7.7046	50.90		Q	V				
4+25	8.0770	54.07		Q	V				
4+30	8.4703	57.10		Q	V				
4+35	8.8794	59.41		Q	V				
4+40	9.3051	61.80		Q	V				
4+45	9.7514	64.80		Q	V				
4+50	10.2179	67.75		Q	V				
4+55	10.7002	70.02		Q	V				
5+ 0	11.1987	72.38		Q	V				
5+ 5	11.7244	76.33		Q	V				
5+10	12.3069	84.59		Q	V				
5+15	12.9710	96.43		Q	V				
5+20	13.7144	107.94		Q	V				
5+25	14.5333	118.89		Q	V				
5+30	15.4471	132.69		Q	V				
5+35	16.4218	141.53		Q	V				
5+40	17.2106	114.53		Q	V				
5+45	17.7160	73.38		Q	V				
5+50	18.0535	49.00		Q	V				
5+55	18.2946	35.01		Q	V				
6+ 0	18.4676	25.13		Q	V				
6+ 5	18.5923	18.11		Q	V				
6+10	18.6851	13.46		Q	V				
6+15	18.7559	10.29		Q	V				
6+20	18.8093	7.75		Q	V				
6+25	18.8489	5.75		Q	V				
6+30	18.8776	4.17		Q	V				
6+35	18.8982	2.98		Q	V				
6+40	18.9122	2.04		Q	V				
6+45	18.9169	0.69		Q	V				
6+50	18.9188	0.28		Q	V				
6+55	18.9197	0.13		Q	V				
7+ 0	18.9201	0.06		Q	V				
7+ 5	18.9202	0.01		Q	V				
7+10	18.9202	0.01		Q	V				

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# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kxexh24100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Existing Condition  
100-year 24-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.035  
Lag time = 0.155 Hr.  
Lag time = 9.31 Min.  
25% of lag time = 2.33 Min.  
40% of lag time = 3.72 Min.  
Unit time = 5.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 2.250 (In)

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

Area Averaged 100-Year Rainfall = 5.870(In)

Point rain (area averaged) = 5.870(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 5.869(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
91.500	80.20	0.000
Total Area Entered = 91.50(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.2	91.1	0.115	0.000	0.115	1.000	0.115
						Sum (F) = 0.115

Area averaged mean soil loss (F) (In/Hr) = 0.115  
 Minimum soil loss rate ((In/Hr)) = 0.058  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time	% of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	53.703	6.852	6.319
2	0.167	107.406	29.212	26.938
3	0.250	161.109	28.296	26.093
4	0.333	214.812	11.756	10.841
5	0.417	268.515	6.492	5.987
6	0.500	322.218	4.496	4.146
7	0.583	375.921	3.239	2.987
8	0.667	429.624	2.380	2.195
9	0.750	483.328	1.763	1.625
10	0.833	537.031	1.517	1.399
11	0.917	590.734	1.140	1.052
12	1.000	644.437	0.899	0.829
13	1.083	698.140	0.669	0.617
14	1.167	751.843	0.538	0.496
15	1.250	805.546	0.750	0.692
Sum = 100.000			Sum=	92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.047	( 0.205)	0.042	0.005
2	0.17	0.047	( 0.204)	0.042	0.005
3	0.25	0.047	( 0.203)	0.042	0.005
4	0.33	0.070	( 0.202)	0.063	0.007
5	0.42	0.070	( 0.201)	0.063	0.007
6	0.50	0.070	( 0.201)	0.063	0.007
7	0.58	0.070	( 0.200)	0.063	0.007
8	0.67	0.070	( 0.199)	0.063	0.007
9	0.75	0.070	( 0.198)	0.063	0.007

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

10	0.83	0.13	0.094	( 0.198)	0.085	0.009
11	0.92	0.13	0.094	( 0.197)	0.085	0.009
12	1.00	0.13	0.094	( 0.196)	0.085	0.009
13	1.08	0.10	0.070	( 0.195)	0.063	0.007
14	1.17	0.10	0.070	( 0.194)	0.063	0.007
15	1.25	0.10	0.070	( 0.194)	0.063	0.007
16	1.33	0.10	0.070	( 0.193)	0.063	0.007
17	1.42	0.10	0.070	( 0.192)	0.063	0.007
18	1.50	0.10	0.070	( 0.191)	0.063	0.007
19	1.58	0.10	0.070	( 0.191)	0.063	0.007
20	1.67	0.10	0.070	( 0.190)	0.063	0.007
21	1.75	0.10	0.070	( 0.189)	0.063	0.007
22	1.83	0.13	0.094	( 0.188)	0.085	0.009
23	1.92	0.13	0.094	( 0.188)	0.085	0.009
24	2.00	0.13	0.094	( 0.187)	0.085	0.009
25	2.08	0.13	0.094	( 0.186)	0.085	0.009
26	2.17	0.13	0.094	( 0.185)	0.085	0.009
27	2.25	0.13	0.094	( 0.185)	0.085	0.009
28	2.33	0.13	0.094	( 0.184)	0.085	0.009
29	2.42	0.13	0.094	( 0.183)	0.085	0.009
30	2.50	0.13	0.094	( 0.182)	0.085	0.009
31	2.58	0.17	0.117	( 0.182)	0.106	0.012
32	2.67	0.17	0.117	( 0.181)	0.106	0.012
33	2.75	0.17	0.117	( 0.180)	0.106	0.012
34	2.83	0.17	0.117	( 0.179)	0.106	0.012
35	2.92	0.17	0.117	( 0.179)	0.106	0.012
36	3.00	0.17	0.117	( 0.178)	0.106	0.012
37	3.08	0.17	0.117	( 0.177)	0.106	0.012
38	3.17	0.17	0.117	( 0.176)	0.106	0.012
39	3.25	0.17	0.117	( 0.176)	0.106	0.012
40	3.33	0.17	0.117	( 0.175)	0.106	0.012
41	3.42	0.17	0.117	( 0.174)	0.106	0.012
42	3.50	0.17	0.117	( 0.173)	0.106	0.012
43	3.58	0.17	0.117	( 0.173)	0.106	0.012
44	3.67	0.17	0.117	( 0.172)	0.106	0.012
45	3.75	0.17	0.117	( 0.171)	0.106	0.012
46	3.83	0.20	0.141	( 0.171)	0.127	0.014
47	3.92	0.20	0.141	( 0.170)	0.127	0.014
48	4.00	0.20	0.141	( 0.169)	0.127	0.014
49	4.08	0.20	0.141	( 0.168)	0.127	0.014
50	4.17	0.20	0.141	( 0.168)	0.127	0.014
51	4.25	0.20	0.141	( 0.167)	0.127	0.014
52	4.33	0.23	0.164	( 0.166)	0.148	0.016
53	4.42	0.23	0.164	( 0.166)	0.148	0.016
54	4.50	0.23	0.164	( 0.165)	0.148	0.016
55	4.58	0.23	0.164	( 0.164)	0.148	0.016
56	4.67	0.23	0.164	( 0.163)	0.148	0.016
57	4.75	0.23	0.164	( 0.163)	0.148	0.016
58	4.83	0.27	0.188	0.162 ( 0.169)		0.026
59	4.92	0.27	0.188	0.161 ( 0.169)		0.026
60	5.00	0.27	0.188	0.161 ( 0.169)		0.027
61	5.08	0.20	0.141	( 0.160)	0.127	0.014
62	5.17	0.20	0.141	( 0.159)	0.127	0.014
63	5.25	0.20	0.141	( 0.159)	0.127	0.014
64	5.33	0.23	0.164	( 0.158)	0.148	0.016
65	5.42	0.23	0.164	( 0.157)	0.148	0.016
66	5.50	0.23	0.164	( 0.156)	0.148	0.016
67	5.58	0.27	0.188	0.156 ( 0.169)		0.032
68	5.67	0.27	0.188	0.155 ( 0.169)		0.033
69	5.75	0.27	0.188	0.154 ( 0.169)		0.033
70	5.83	0.27	0.188	0.154 ( 0.169)		0.034
71	5.92	0.27	0.188	0.153 ( 0.169)		0.035
72	6.00	0.27	0.188	0.152 ( 0.169)		0.035

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

73	6.08	0.30	0.211	0.152	( 0.190)	0.060
74	6.17	0.30	0.211	0.151	( 0.190)	0.060
75	6.25	0.30	0.211	0.150	( 0.190)	0.061
76	6.33	0.30	0.211	0.150	( 0.190)	0.062
77	6.42	0.30	0.211	0.149	( 0.190)	0.062
78	6.50	0.30	0.211	0.148	( 0.190)	0.063
79	6.58	0.33	0.235	0.148	( 0.211)	0.087
80	6.67	0.33	0.235	0.147	( 0.211)	0.088
81	6.75	0.33	0.235	0.146	( 0.211)	0.088
82	6.83	0.33	0.235	0.146	( 0.211)	0.089
83	6.92	0.33	0.235	0.145	( 0.211)	0.090
84	7.00	0.33	0.235	0.144	( 0.211)	0.090
85	7.08	0.33	0.235	0.144	( 0.211)	0.091
86	7.17	0.33	0.235	0.143	( 0.211)	0.092
87	7.25	0.33	0.235	0.142	( 0.211)	0.092
88	7.33	0.37	0.258	0.142	( 0.232)	0.116
89	7.42	0.37	0.258	0.141	( 0.232)	0.117
90	7.50	0.37	0.258	0.140	( 0.232)	0.118
91	7.58	0.40	0.282	0.140	( 0.254)	0.142
92	7.67	0.40	0.282	0.139	( 0.254)	0.143
93	7.75	0.40	0.282	0.139	( 0.254)	0.143
94	7.83	0.43	0.305	0.138	( 0.275)	0.167
95	7.92	0.43	0.305	0.137	( 0.275)	0.168
96	8.00	0.43	0.305	0.137	( 0.275)	0.169
97	8.08	0.50	0.352	0.136	( 0.317)	0.216
98	8.17	0.50	0.352	0.135	( 0.317)	0.217
99	8.25	0.50	0.352	0.135	( 0.317)	0.217
100	8.33	0.50	0.352	0.134	( 0.317)	0.218
101	8.42	0.50	0.352	0.133	( 0.317)	0.219
102	8.50	0.50	0.352	0.133	( 0.317)	0.219
103	8.58	0.53	0.376	0.132	( 0.338)	0.243
104	8.67	0.53	0.376	0.132	( 0.338)	0.244
105	8.75	0.53	0.376	0.131	( 0.338)	0.245
106	8.83	0.57	0.399	0.130	( 0.359)	0.269
107	8.92	0.57	0.399	0.130	( 0.359)	0.269
108	9.00	0.57	0.399	0.129	( 0.359)	0.270
109	9.08	0.63	0.446	0.129	( 0.401)	0.318
110	9.17	0.63	0.446	0.128	( 0.401)	0.318
111	9.25	0.63	0.446	0.127	( 0.401)	0.319
112	9.33	0.67	0.470	0.127	( 0.423)	0.343
113	9.42	0.67	0.470	0.126	( 0.423)	0.343
114	9.50	0.67	0.470	0.125	( 0.423)	0.344
115	9.58	0.70	0.493	0.125	( 0.444)	0.368
116	9.67	0.70	0.493	0.124	( 0.444)	0.369
117	9.75	0.70	0.493	0.124	( 0.444)	0.369
118	9.83	0.73	0.516	0.123	( 0.465)	0.393
119	9.92	0.73	0.516	0.122	( 0.465)	0.394
120	10.00	0.73	0.516	0.122	( 0.465)	0.395
121	10.08	0.50	0.352	0.121	( 0.317)	0.231
122	10.17	0.50	0.352	0.121	( 0.317)	0.231
123	10.25	0.50	0.352	0.120	( 0.317)	0.232
124	10.33	0.50	0.352	0.120	( 0.317)	0.233
125	10.42	0.50	0.352	0.119	( 0.317)	0.233
126	10.50	0.50	0.352	0.118	( 0.317)	0.234
127	10.58	0.67	0.470	0.118	( 0.423)	0.352
128	10.67	0.67	0.470	0.117	( 0.423)	0.352
129	10.75	0.67	0.470	0.117	( 0.423)	0.353
130	10.83	0.67	0.470	0.116	( 0.423)	0.353
131	10.92	0.67	0.470	0.116	( 0.423)	0.354
132	11.00	0.67	0.470	0.115	( 0.423)	0.355
133	11.08	0.63	0.446	0.114	( 0.401)	0.332
134	11.17	0.63	0.446	0.114	( 0.401)	0.332
135	11.25	0.63	0.446	0.113	( 0.401)	0.333

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

136	11.33	0.63	0.446	0.113	( 0.401)	0.333
137	11.42	0.63	0.446	0.112	( 0.401)	0.334
138	11.50	0.63	0.446	0.112	( 0.401)	0.334
139	11.58	0.57	0.399	0.111	( 0.359)	0.288
140	11.67	0.57	0.399	0.110	( 0.359)	0.289
141	11.75	0.57	0.399	0.110	( 0.359)	0.289
142	11.83	0.60	0.423	0.109	( 0.380)	0.313
143	11.92	0.60	0.423	0.109	( 0.380)	0.314
144	12.00	0.60	0.423	0.108	( 0.380)	0.314
145	12.08	0.83	0.587	0.108	( 0.528)	0.479
146	12.17	0.83	0.587	0.107	( 0.528)	0.480
147	12.25	0.83	0.587	0.107	( 0.528)	0.480
148	12.33	0.87	0.610	0.106	( 0.549)	0.504
149	12.42	0.87	0.610	0.106	( 0.549)	0.505
150	12.50	0.87	0.610	0.105	( 0.549)	0.505
151	12.58	0.93	0.657	0.105	( 0.592)	0.553
152	12.67	0.93	0.657	0.104	( 0.592)	0.553
153	12.75	0.93	0.657	0.104	( 0.592)	0.554
154	12.83	0.97	0.681	0.103	( 0.613)	0.578
155	12.92	0.97	0.681	0.102	( 0.613)	0.578
156	13.00	0.97	0.681	0.102	( 0.613)	0.579
157	13.08	1.13	0.798	0.101	( 0.718)	0.697
158	13.17	1.13	0.798	0.101	( 0.718)	0.697
159	13.25	1.13	0.798	0.100	( 0.718)	0.698
160	13.33	1.13	0.798	0.100	( 0.718)	0.698
161	13.42	1.13	0.798	0.099	( 0.718)	0.699
162	13.50	1.13	0.798	0.099	( 0.718)	0.699
163	13.58	0.77	0.540	0.098	( 0.486)	0.442
164	13.67	0.77	0.540	0.098	( 0.486)	0.442
165	13.75	0.77	0.540	0.097	( 0.486)	0.443
166	13.83	0.77	0.540	0.097	( 0.486)	0.443
167	13.92	0.77	0.540	0.096	( 0.486)	0.444
168	14.00	0.77	0.540	0.096	( 0.486)	0.444
169	14.08	0.90	0.634	0.095	( 0.570)	0.538
170	14.17	0.90	0.634	0.095	( 0.570)	0.539
171	14.25	0.90	0.634	0.094	( 0.570)	0.539
172	14.33	0.87	0.610	0.094	( 0.549)	0.516
173	14.42	0.87	0.610	0.093	( 0.549)	0.517
174	14.50	0.87	0.610	0.093	( 0.549)	0.517
175	14.58	0.87	0.610	0.093	( 0.549)	0.518
176	14.67	0.87	0.610	0.092	( 0.549)	0.518
177	14.75	0.87	0.610	0.092	( 0.549)	0.519
178	14.83	0.83	0.587	0.091	( 0.528)	0.496
179	14.92	0.83	0.587	0.091	( 0.528)	0.496
180	15.00	0.83	0.587	0.090	( 0.528)	0.497
181	15.08	0.80	0.563	0.090	( 0.507)	0.474
182	15.17	0.80	0.563	0.089	( 0.507)	0.474
183	15.25	0.80	0.563	0.089	( 0.507)	0.475
184	15.33	0.77	0.540	0.088	( 0.486)	0.452
185	15.42	0.77	0.540	0.088	( 0.486)	0.452
186	15.50	0.77	0.540	0.087	( 0.486)	0.453
187	15.58	0.63	0.446	0.087	( 0.401)	0.359
188	15.67	0.63	0.446	0.087	( 0.401)	0.360
189	15.75	0.63	0.446	0.086	( 0.401)	0.360
190	15.83	0.63	0.446	0.086	( 0.401)	0.360
191	15.92	0.63	0.446	0.085	( 0.401)	0.361
192	16.00	0.63	0.446	0.085	( 0.401)	0.361
193	16.08	0.13	0.094	0.084	( 0.085)	0.010
194	16.17	0.13	0.094	0.084	( 0.085)	0.010
195	16.25	0.13	0.094	0.083	( 0.085)	0.010
196	16.33	0.13	0.094	0.083	( 0.085)	0.011
197	16.42	0.13	0.094	0.083	( 0.085)	0.011
198	16.50	0.13	0.094	0.082	( 0.085)	0.012



## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

199	16.58	0.10	0.070	( 0.082)	0.063	0.007
200	16.67	0.10	0.070	( 0.081)	0.063	0.007
201	16.75	0.10	0.070	( 0.081)	0.063	0.007
202	16.83	0.10	0.070	( 0.081)	0.063	0.007
203	16.92	0.10	0.070	( 0.080)	0.063	0.007
204	17.00	0.10	0.070	( 0.080)	0.063	0.007
205	17.08	0.17	0.117	0.079	( 0.106)	0.038
206	17.17	0.17	0.117	0.079	( 0.106)	0.038
207	17.25	0.17	0.117	0.079	( 0.106)	0.039
208	17.33	0.17	0.117	0.078	( 0.106)	0.039
209	17.42	0.17	0.117	0.078	( 0.106)	0.040
210	17.50	0.17	0.117	0.077	( 0.106)	0.040
211	17.58	0.17	0.117	0.077	( 0.106)	0.040
212	17.67	0.17	0.117	0.077	( 0.106)	0.041
213	17.75	0.17	0.117	0.076	( 0.106)	0.041
214	17.83	0.13	0.094	0.076	( 0.085)	0.018
215	17.92	0.13	0.094	0.075	( 0.085)	0.018
216	18.00	0.13	0.094	0.075	( 0.085)	0.019
217	18.08	0.13	0.094	0.075	( 0.085)	0.019
218	18.17	0.13	0.094	0.074	( 0.085)	0.020
219	18.25	0.13	0.094	0.074	( 0.085)	0.020
220	18.33	0.13	0.094	0.074	( 0.085)	0.020
221	18.42	0.13	0.094	0.073	( 0.085)	0.021
222	18.50	0.13	0.094	0.073	( 0.085)	0.021
223	18.58	0.10	0.070	( 0.073)	0.063	0.007
224	18.67	0.10	0.070	( 0.072)	0.063	0.007
225	18.75	0.10	0.070	( 0.072)	0.063	0.007
226	18.83	0.07	0.047	( 0.072)	0.042	0.005
227	18.92	0.07	0.047	( 0.071)	0.042	0.005
228	19.00	0.07	0.047	( 0.071)	0.042	0.005
229	19.08	0.10	0.070	( 0.071)	0.063	0.007
230	19.17	0.10	0.070	( 0.070)	0.063	0.007
231	19.25	0.10	0.070	( 0.070)	0.063	0.007
232	19.33	0.13	0.094	0.070	( 0.085)	0.024
233	19.42	0.13	0.094	0.069	( 0.085)	0.025
234	19.50	0.13	0.094	0.069	( 0.085)	0.025
235	19.58	0.10	0.070	( 0.069)	0.063	0.007
236	19.67	0.10	0.070	( 0.068)	0.063	0.007
237	19.75	0.10	0.070	( 0.068)	0.063	0.007
238	19.83	0.07	0.047	( 0.068)	0.042	0.005
239	19.92	0.07	0.047	( 0.067)	0.042	0.005
240	20.00	0.07	0.047	( 0.067)	0.042	0.005
241	20.08	0.10	0.070	( 0.067)	0.063	0.007
242	20.17	0.10	0.070	( 0.066)	0.063	0.007
243	20.25	0.10	0.070	( 0.066)	0.063	0.007
244	20.33	0.10	0.070	( 0.066)	0.063	0.007
245	20.42	0.10	0.070	( 0.066)	0.063	0.007
246	20.50	0.10	0.070	( 0.065)	0.063	0.007
247	20.58	0.10	0.070	( 0.065)	0.063	0.007
248	20.67	0.10	0.070	( 0.065)	0.063	0.007
249	20.75	0.10	0.070	( 0.064)	0.063	0.007
250	20.83	0.07	0.047	( 0.064)	0.042	0.005
251	20.92	0.07	0.047	( 0.064)	0.042	0.005
252	21.00	0.07	0.047	( 0.064)	0.042	0.005
253	21.08	0.10	0.070	( 0.063)	0.063	0.007
254	21.17	0.10	0.070	0.063	( 0.063)	0.007
255	21.25	0.10	0.070	0.063	( 0.063)	0.007
256	21.33	0.07	0.047	( 0.063)	0.042	0.005
257	21.42	0.07	0.047	( 0.062)	0.042	0.005
258	21.50	0.07	0.047	( 0.062)	0.042	0.005
259	21.58	0.10	0.070	0.062	( 0.063)	0.008
260	21.67	0.10	0.070	0.062	( 0.063)	0.009
261	21.75	0.10	0.070	0.062	( 0.063)	0.009

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

262	21.83	0.07	0.047	( 0.061)	0.042	0.005
263	21.92	0.07	0.047	( 0.061)	0.042	0.005
264	22.00	0.07	0.047	( 0.061)	0.042	0.005
265	22.08	0.10	0.070	0.061	( 0.063)	0.010
266	22.17	0.10	0.070	0.061	( 0.063)	0.010
267	22.25	0.10	0.070	0.060	( 0.063)	0.010
268	22.33	0.07	0.047	( 0.060)	0.042	0.005
269	22.42	0.07	0.047	( 0.060)	0.042	0.005
270	22.50	0.07	0.047	( 0.060)	0.042	0.005
271	22.58	0.07	0.047	( 0.060)	0.042	0.005
272	22.67	0.07	0.047	( 0.059)	0.042	0.005
273	22.75	0.07	0.047	( 0.059)	0.042	0.005
274	22.83	0.07	0.047	( 0.059)	0.042	0.005
275	22.92	0.07	0.047	( 0.059)	0.042	0.005
276	23.00	0.07	0.047	( 0.059)	0.042	0.005
277	23.08	0.07	0.047	( 0.059)	0.042	0.005
278	23.17	0.07	0.047	( 0.059)	0.042	0.005
279	23.25	0.07	0.047	( 0.058)	0.042	0.005
280	23.33	0.07	0.047	( 0.058)	0.042	0.005
281	23.42	0.07	0.047	( 0.058)	0.042	0.005
282	23.50	0.07	0.047	( 0.058)	0.042	0.005
283	23.58	0.07	0.047	( 0.058)	0.042	0.005
284	23.67	0.07	0.047	( 0.058)	0.042	0.005
285	23.75	0.07	0.047	( 0.058)	0.042	0.005
286	23.83	0.07	0.047	( 0.058)	0.042	0.005
287	23.92	0.07	0.047	( 0.058)	0.042	0.005
288	24.00	0.07	0.047	( 0.058)	0.042	0.005

(Loss Rate Not Used)

Sum = 100.0 Sum = 43.3

Flood volume = Effective rainfall 3.61 (In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 27.5(Ac.Ft)  
Total soil loss = 2.26(In)  
Total soil loss = 17.244(Ac.Ft)  
Total rainfall = 5.87(In)  
Flood volume = 1198202.3 Cubic Feet  
Total soil loss = 751140.5 Cubic Feet

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Peak flow rate of this hydrograph = 62.787(CFS)  
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24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	17.5	35.0	52.5	70.0
0+ 5	0.0002	0.03	Q				
0+10	0.0013	0.16	Q				
0+15	0.0032	0.28	Q				
0+20	0.0056	0.34	Q				
0+25	0.0086	0.44	Q				
0+30	0.0121	0.52	Q				
0+35	0.0160	0.56	Q				
0+40	0.0200	0.58	Q				
0+45	0.0241	0.60	Q				
0+50	0.0284	0.63	Q				
0+55	0.0332	0.70	Q				
1+ 0	0.0385	0.77	Q				
1+ 5	0.0439	0.79	Q				
1+10	0.0490	0.74	Q				
1+15	0.0538	0.69	Q				

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

1+20	0.0585	0.68	Q				
1+25	0.0631	0.67	Q				
1+30	0.0677	0.67	Q				
1+35	0.0722	0.66	Q				
1+40	0.0768	0.66	Q				
1+45	0.0813	0.66	Q				
1+50	0.0859	0.67	Q				
1+55	0.0910	0.73	Q				
2+ 0	0.0964	0.79	Q				
2+ 5	0.1021	0.82	Q				
2+10	0.1078	0.83	Q				
2+15	0.1136	0.84	Q				
2+20	0.1194	0.85	Q				
2+25	0.1252	0.85	Q				
2+30	0.1311	0.85	Q				
2+35	0.1371	0.87	Q				
2+40	0.1436	0.94	Q				
2+45	0.1505	1.00	Q				
2+50	0.1576	1.03	Q				
2+55	0.1648	1.04	Q				
3+ 0	0.1720	1.06	Q				
3+ 5	0.1793	1.06	Q				
3+10	0.1867	1.07	Q				
3+15	0.1941	1.07	Q				
3+20	0.2015	1.07	Q				
3+25	0.2089	1.08	Q				
3+30	0.2163	1.08	Q				
3+35	0.2238	1.08	Q				
3+40	0.2312	1.08	Q				
3+45	0.2387	1.08	Q				
3+50	0.2462	1.10	Q				
3+55	0.2542	1.16	Q				
4+ 0	0.2626	1.22	Q				
4+ 5	0.2712	1.25	Q				
4+10	0.2799	1.26	Q				
4+15	0.2887	1.27	Q				
4+20	0.2976	1.29	Q				
4+25	0.3070	1.36	Q				
4+30	0.3168	1.43	Q				
4+35	0.3268	1.46	Q				
4+40	0.3370	1.47	Q				
4+45	0.3472	1.48	Q				
4+50	0.3579	1.55	Q				
4+55	0.3704	1.81	VQ				
5+ 0	0.3847	2.09	VQ				
5+ 5	0.3995	2.15	VQ				
5+10	0.4124	1.88	VQ				
5+15	0.4234	1.59	Q				
5+20	0.4337	1.50	Q				
5+25	0.4441	1.51	Q				
5+30	0.4546	1.54	Q				
5+35	0.4659	1.64	Q				
5+40	0.4801	2.06	VQ				
5+45	0.4972	2.49	VQ				
5+50	0.5158	2.69	VQ				
5+55	0.5352	2.83	VQ				
6+ 0	0.5555	2.95	VQ				
6+ 5	0.5775	3.19	VQ				
6+10	0.6045	3.91	V Q				
6+15	0.6362	4.60	V Q				
6+20	0.6702	4.94	V Q				
6+25	0.7057	5.16	VQ				
6+30	0.7424	5.33	V Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

6+35	0.7811	5.62	V Q				
6+40	0.8249	6.37	V Q				
6+45	0.8738	7.09	V Q				
6+50	0.9250	7.44	V Q				
6+55	0.9778	7.67	V Q				
7+ 0	1.0319	7.85	V Q				
7+ 5	1.0869	7.99	V Q				
7+10	1.1428	8.12	V Q				
7+15	1.1995	8.23	V Q				
7+20	1.2579	8.47	V Q				
7+25	1.3212	9.19	V Q				
7+30	1.3892	9.88	V Q				
7+35	1.4606	10.36	V Q				
7+40	1.5378	11.21	V Q				
7+45	1.6204	11.99	V Q				
7+50	1.7066	12.52	V Q				
7+55	1.7990	13.41	V Q				
8+ 0	1.8969	14.22	V Q				
8+ 5	1.9997	14.93	V Q				
8+10	2.1131	16.47	V Q				
8+15	2.2365	17.91	V Q				
8+20	2.3645	18.60	V Q				
8+25	2.4956	19.02	V Q				
8+30	2.6288	19.35	V Q				
8+35	2.7648	19.74	V Q				
8+40	2.9065	20.57	V Q				
8+45	3.0536	21.36	V Q				
8+50	3.2044	21.90	V Q				
8+55	3.3613	22.79	V Q				
9+ 0	3.5239	23.61	V Q				
9+ 5	3.6914	24.32	V Q				
9+10	3.8695	25.86	V Q				
9+15	4.0576	27.31	V Q				
9+20	4.2513	28.12	V Q				
9+25	4.4522	29.17	V Q				
9+30	4.6594	30.09	V Q				
9+35	4.8711	30.74	V Q				
9+40	5.0895	31.71	V Q				
9+45	5.3139	32.59	V Q				
9+50	5.5425	33.19	V Q				
9+55	5.7776	34.14	V Q				
10+ 0	6.0186	34.99	V Q				
10+ 5	6.2555	34.40	V Q				
10+10	6.4639	30.26	V Q				
10+15	6.6445	26.21	V Q				
10+20	6.8139	24.60	V Q				
10+25	6.9776	23.76	V Q				
10+30	7.1374	23.21	V Q				
10+35	7.2996	23.56	V Q				
10+40	7.4818	26.45	V Q				
10+45	7.6839	29.34	V Q				
10+50	7.8936	30.45	V Q				
10+55	8.1074	31.04	V Q				
11+ 0	8.3241	31.46	V Q				
11+ 5	8.5419	31.62	V Q				
11+10	8.7568	31.21	V Q				
11+15	8.9685	30.73	V Q				
11+20	9.1799	30.69	V Q				
11+25	9.3915	30.73	V Q				
11+30	9.6035	30.78	V Q				
11+35	9.8138	30.54	V Q				
11+40	10.0158	29.33	V Q				
11+45	10.2100	28.20	V Q				

# Keller Crossing

## ATTACHMENT C – Inflow Hydrographs, Existing Condition

11+50	10.4018	27.86			Q			
11+55	10.5962	28.23			VQ			
12+ 0	10.7938	28.68			VQ			
12+ 5	10.9995	29.87			V Q			
12+10	11.2362	34.38			V Q			
12+15	11.5029	38.72			V	Q		
12+20	11.7833	40.71			V	Q		
12+25	12.0751	42.38			V	Q		
12+30	12.3762	43.72			V	Q		
12+35	12.6848	44.81			V	Q		
12+40	13.0060	46.63			V	Q		
12+45	13.3384	48.26			V	Q		
12+50	13.6778	49.28			V	Q		
12+55	14.0254	50.48			V	Q		
13+ 0	14.3803	51.52			V	Q		
13+ 5	14.7442	52.84			V	Q		
13+10	15.1327	56.41			V	Q		
13+15	15.5447	59.82			V	Q		
13+20	15.9668	61.30			V	Q		
13+25	16.3949	62.16			V	Q		
13+30	16.8273	62.79			V	Q		
13+35	17.2517	61.61			V	Q		
13+40	17.6305	55.01			V	Q		
13+45	17.9649	48.55			VQ			
13+50	18.2816	45.98			Q			
13+55	18.5888	44.61			Q	V		
14+ 0	18.8898	43.70			Q	V		
14+ 5	19.1903	43.64			Q	V		
14+10	19.5051	45.71			Q	V		
14+15	19.8348	47.87			Q	V		
14+20	20.1683	48.42			Q	V		
14+25	20.4997	48.12			Q	V		
14+30	20.8285	47.73			Q	V		
14+35	21.1566	47.64			Q	V		
14+40	21.4846	47.62			Q	V		
14+45	21.8120	47.54			Q	V		
14+50	22.1391	47.50			Q	V		
14+55	22.4626	46.96			Q	V		
15+ 0	22.7823	46.43			Q	V		
15+ 5	23.0998	46.10			Q	V		
15+10	23.4124	45.39			Q	V		
15+15	23.7207	44.77			Q	V		
15+20	24.0259	44.32			Q	V		
15+25	24.3257	43.53			Q	V		
15+30	24.6205	42.80			Q	V		
15+35	24.9090	41.89			Q	V		
15+40	25.1789	39.19			Q	V		
15+45	25.4311	36.62			Q	V		
15+50	25.6758	35.53			Q	V		
15+55	25.9163	34.92			Q	V		
16+ 0	26.1539	34.50			Q	V		
16+ 5	26.3741	31.98			Q	V		
16+10	26.5276	22.29		Q				V
16+15	26.6168	12.95		Q				V
16+20	26.6790	9.02		Q				V
16+25	26.7261	6.84		Q				V
16+30	26.7628	5.33		Q				V
16+35	26.7919	4.22		Q				V
16+40	26.8146	3.30		Q				V
16+45	26.8323	2.56		Q				V
16+50	26.8462	2.03		Q				V
16+55	26.8575	1.63		Q				V
17+ 0	26.8666	1.33		Q				V

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

17+ 5	26.8755	1.30	Q				V
17+10	26.8890	1.95	Q				V
17+15	26.9064	2.53	Q				V
17+20	26.9262	2.88	Q				V
17+25	26.9475	3.09	Q				V
17+30	26.9699	3.25	Q				V
17+35	26.9930	3.37	Q				V
17+40	27.0169	3.47	Q				V
17+45	27.0413	3.55	Q				V
17+50	27.0653	3.47	Q				V
17+55	27.0853	2.91	Q				V
18+ 0	27.1015	2.36	Q				V
18+ 5	27.1164	2.15	Q				V
18+10	27.1306	2.06	Q				V
18+15	27.1445	2.02	Q				V
18+20	27.1582	1.99	Q				V
18+25	27.1717	1.97	Q				V
18+30	27.1852	1.96	Q				V
18+35	27.1981	1.87	Q				V
18+40	27.2084	1.49	Q				V
18+45	27.2161	1.12	Q				V
18+50	27.2227	0.95	Q				V
18+55	27.2282	0.80	Q				V
19+ 0	27.2327	0.67	Q				V
19+ 5	27.2370	0.62	Q				V
19+10	27.2414	0.64	Q				V
19+15	27.2460	0.67	Q				V
19+20	27.2513	0.78	Q				V
19+25	27.2599	1.24	Q				V
19+30	27.2716	1.70	Q				V
19+35	27.2839	1.79	Q				V
19+40	27.2937	1.41	Q				V
19+45	27.3006	1.01	Q				V
19+50	27.3066	0.86	Q				V
19+55	27.3116	0.73	Q				V
20+ 0	27.3159	0.63	Q				V
20+ 5	27.3200	0.59	Q				V
20+10	27.3243	0.62	Q				V
20+15	27.3288	0.66	Q				V
20+20	27.3334	0.66	Q				V
20+25	27.3379	0.66	Q				V
20+30	27.3425	0.67	Q				V
20+35	27.3471	0.66	Q				V
20+40	27.3516	0.65	Q				V
20+45	27.3560	0.64	Q				V
20+50	27.3603	0.63	Q				V
20+55	27.3642	0.57	Q				V
21+ 0	27.3677	0.51	Q				V
21+ 5	27.3711	0.50	Q				V
21+10	27.3749	0.55	Q				V
21+15	27.3791	0.61	Q				V
21+20	27.3834	0.62	Q				V
21+25	27.3872	0.56	Q				V
21+30	27.3907	0.50	Q				V
21+35	27.3941	0.50	Q				V
21+40	27.3982	0.59	Q				V
21+45	27.4029	0.68	Q				V
21+50	27.4077	0.70	Q				V
21+55	27.4120	0.62	Q				V
22+ 0	27.4156	0.53	Q				V
22+ 5	27.4192	0.52	Q				V
22+10	27.4236	0.64	Q				V
22+15	27.4289	0.77	Q				V

## Keller Crossing

### ATTACHMENT C – Inflow Hydrographs, Existing Condition

22+20	27.4344	0.79	Q				V
22+25	27.4390	0.68	Q				V
22+30	27.4429	0.56	Q				V
22+35	27.4464	0.51	Q				V
22+40	27.4498	0.49	Q				V
22+45	27.4530	0.48	Q				V
22+50	27.4562	0.47	Q				V
22+55	27.4594	0.46	Q				V
23+ 0	27.4625	0.45	Q				V
23+ 5	27.4656	0.45	Q				V
23+10	27.4686	0.44	Q				V
23+15	27.4717	0.44	Q				V
23+20	27.4747	0.44	Q				V
23+25	27.4777	0.44	Q				V
23+30	27.4807	0.43	Q				V
23+35	27.4837	0.43	Q				V
23+40	27.4866	0.43	Q				V
23+45	27.4896	0.43	Q				V
23+50	27.4926	0.43	Q				V
23+55	27.4956	0.43	Q				V
24+ 0	27.4986	0.43	Q				V
24+ 5	27.5014	0.40	Q				V
24+10	27.5033	0.28	Q				V
24+15	27.5043	0.15	Q				V
24+20	27.5050	0.10	Q				V
24+25	27.5056	0.08	Q				V
24+30	27.5059	0.06	Q				V
24+35	27.5062	0.04	Q				V
24+40	27.5065	0.03	Q				V
24+45	27.5066	0.02	Q				V
24+50	27.5067	0.02	Q				V
24+55	27.5068	0.01	Q				V
25+ 0	27.5069	0.01	Q				V
25+ 5	27.5069	0.01	Q				V
25+10	27.5069	0.00	Q				V

---

# **ATTACHMENT D:**

**INFLOW HYDROGRAPHS, PROPOSED CONDITION**



**INFLOW HYDROGRAPHS  
PROPOSED CONDITION  
Drainage Area B and Drainage Area C**

## Drainage Area B

<b>Keller Project</b>					
<b>Manning "n" Value Worksheet</b>					
<b>Drainage Area B - 59.9 Ac (Proposed)</b>					
[1]	[2]	[3]	[4]	[5]	[7]
Subarea	Area in (Ac)	Land Use (Plate D-5.6)	"n" Value	Decimal portion of Area [2] / SUM[2]	Average "n" Value [4] * [5]
	37.5	Natural	0.035	0.63	0.022
	2.9	Basin	0.05	0.05	0.002
		Res 1/2 Ac	0.015	0.00	0.000
		Res 1/4 Ac	0.015	0.00	0.000
	14.2	Res < 1/4 Ac	0.015	0.24	0.004
	5.3	Park	0.02	0.09	0.002
		Mobil Home	0.015	0.00	0.000
		Hospital	0.02	0.00	0.000
		Commercial	0.015	0.00	0.000
Sum =	59.9			1.00	<b>0.030</b>

Keller Crossing – Tract 38163  
ATTACHMENT D – Inflow Hydrographs, Proposed Condition

<b>Keller Project</b>							
<b>Runoff Index (RI) Worksheet</b>							
<b>Drainage Area B - 59.9 Ac (proposed)</b>							
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Subarea	Area in (Ac)	Soil Group	Cover Type	RI Number (Plate E6-1)	Land Use	Decimal portion of Area [2] / SUM[2]	Average RI Value [5] * [7]
<b>Natural</b>		B	grass (fair)	69	Natural	0.00	0.0
	37.5	C	grass (fair)	79	Natural	1.00	79.0
		D	grass (fair)	84	Natural	0.00	0.0
<i>Sum =</i>	<i>37.5</i>					<i>1.00</i>	<b>79.0</b>
<b>Basin</b>		B	Landscape	56	Basin	0.00	0.0
	2.9	C	Landscape	69	Basin	1.00	69.0
		D	Landscape	75	Basin	0.00	0.0
<i>Sum =</i>	<i>2.9</i>					<i>1.00</i>	<b>69.0</b>
<b>Res 1/4 Ac</b>		B	Landscape	56	Residential	0.00	0.0
	14.2	C	Landscape	69	Residential	1.00	69.0
		D	Landscape	75	Residential	0.00	0.0
<i>Sum =</i>	<i>14.2</i>					<i>1.00</i>	<b>69.0</b>
<b>Park</b>		B	Landscape	56	Commercial	0.00	0.0
	5.3	C	Landscape	69	Commercial	1.00	69.0
		D	Landscape	75	Commercial	0.00	0.0
<i>Sum =</i>	<i>5.3</i>					<i>1.00</i>	<b>69.0</b>
	59.9						

Keller Crossing – Tract 38163  
ATTACHMENT D – Inflow Hydrographs, Proposed Condition

<b>Keller Project</b>						
<b>Soil Low Loss Rate Worksheet</b>						
<b>Drainage Area B - 59.9 Ac (Proposed)</b>						
[1]	[2]	[3]	[4]	[5]	[6]	[7]
Subarea	Area in (Ac)	Land Use (Plate D-5.6)	% Impervious (Plate D-5.6)	Soil Low Loss Rate 0.9-(0.8)* [4]	Decimal portion of Area [2] / SUM[2]	Average Low Loss Rate [5] * [6]
	37.5	Natural	0	0.90	0.63	0.56
	2.9	Basin	5	0.86	0.05	0.04
		Res 1/2 Ac	40	0.58	0.00	0.00
		Res 1/4 Ac	50	0.50	0.00	0.00
	14.2	Res < 1/4 Ac	65	0.38	0.24	0.09
	5.3	Park	15	0.78	0.09	0.07
		Mobil Home	75	0.30	0.00	0.00
		Hospital	75	0.30	0.00	0.00
		Commercial	90	0.18	0.00	0.00
Sum =	59.9				1.00	<b>0.76</b>

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 10/04/21 File: kxbpr10h110.out

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 -----

Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area B = 59.9 Ac  
 Hydrology Proposed Condition  
 10-year 1-hour storm

-----  
 Drainage Area = 59.90(Ac.) = 0.094 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 59.90(Ac.) = 0.094 Sq. Mi.  
 Length along longest watercourse = 3886.00(Ft.)  
 Length along longest watercourse measured to centroid = 1867.00(Ft.)  
 Length along longest watercourse = 0.736 Mi.  
 Length along longest watercourse measured to centroid = 0.354 Mi.  
 Difference in elevation = 144.00(Ft.)  
 Slope along watercourse = 195.6562 Ft./Mi.  
 Average Manning's 'N' = 0.030  
 Lag time = 0.158 Hr.  
 Lag time = 9.50 Min.  
 25% of lag time = 2.38 Min.  
 40% of lag time = 3.80 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 1 Hour(s)  
 User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
59.90	0.53	31.63

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
59.90	1.59	95.24

STORM EVENT (YEAR) = 10.00  
 Area Averaged 2-Year Rainfall = 0.528(In)  
 Area Averaged 100-Year Rainfall = 1.590(In)

Point rain (area averaged) = 0.965(In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Areal adjustment factor = 99.95 %  
 Adjusted average point rain = 0.964(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
37.500	79.00	0.000
14.200	69.00	0.650
5.300	69.00	0.150
2.900	69.00	0.020
Total Area Entered =		59.90(Ac.)

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-2					
79.0	79.0	0.256	0.000	0.256	0.626	0.160
69.0	69.0	0.373	0.650	0.155	0.237	0.037
69.0	69.0	0.373	0.150	0.322	0.088	0.029
69.0	69.0	0.373	0.020	0.366	0.048	0.018
Sum (F) =						0.243

Area averaged mean soil loss (F) (In/Hr) = 0.243  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.760

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

#### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.605	4.002
2	0.167	105.210	17.100
3	0.250	157.815	17.204
4	0.333	210.419	7.296
5	0.417	263.024	3.967
6	0.500	315.629	2.758
7	0.583	368.234	1.982
8	0.667	420.839	1.476
9	0.750	473.444	1.079
10	0.833	526.049	0.931
11	0.917	578.654	0.712
12	1.000	631.258	0.562
13	1.083	683.863	0.429
14	1.167	736.468	0.326
15	1.250	789.073	0.318
16	1.333	841.678	0.225
Sum =		100.000	Sum= 60.368

-----  
 The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max   Low	Effective (In/Hr)
1	0.08	4.40	0.509 ( 0.243)	0.266
2	0.17	4.50	0.521 ( 0.243)	0.278
3	0.25	5.40	0.625 ( 0.243)	0.382



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 10/04/21 File: kxbpr25h125.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area B = 59.9 Ac  
Hydrology Proposed Condition  
25-year 1-hour storm

-----  
Drainage Area =        59.90 (Ac.)    =        0.094 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment =        59.90 (Ac.)    =        0.094 Sq. Mi.  
Length along longest watercourse =        3886.00 (Ft.)  
Length along longest watercourse measured to centroid =        1867.00 (Ft.)  
Length along longest watercourse =        0.736 Mi.  
Length along longest watercourse measured to centroid =        0.354 Mi.  
Difference in elevation =        144.00 (Ft.)  
Slope along watercourse =        195.6562 Ft./Mi.  
Average Manning's 'N' = 0.030  
Lag time =        0.158 Hr.  
Lag time =        9.50 Min.  
25% of lag time =        2.38 Min.  
40% of lag time =        3.80 Min.  
Unit time =        5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow =        0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	0.53	31.63

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	1.59	95.24

STORM EVENT (YEAR) = 25.00  
Area Averaged 2-Year Rainfall = 0.528 (In)  
Area Averaged 100-Year Rainfall = 1.590 (In)



## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 1.214(In)  
 Areal adjustment factor = 99.95 %  
 Adjusted average point rain = 1.213(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
37.500	79.00	0.000
14.200	69.00	0.650
5.300	69.00	0.150
2.900	69.00	0.020
Total Area Entered = 59.90 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-2					
79.0	79.0	0.256	0.000	0.256	0.626	0.160
69.0	69.0	0.373	0.650	0.155	0.237	0.037
69.0	69.0	0.373	0.150	0.322	0.088	0.029
69.0	69.0	0.373	0.020	0.366	0.048	0.018
Sum (F) =						0.243

Area averaged mean soil loss (F) (In/Hr) = 0.243  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.760

-----  
 Slope of intensity-duration curve for a 1 hour storm = 0.4800  
 -----

#### U n i t H y d r o g r a p h VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.605	6.630
2	0.167	105.210	28.326
3	0.250	157.815	28.499
4	0.333	210.419	12.086
5	0.417	263.024	6.572
6	0.500	315.629	4.569
7	0.583	368.234	3.283
8	0.667	420.839	2.445
9	0.750	473.444	1.788
10	0.833	526.049	1.543
11	0.917	578.654	1.180
12	1.000	631.258	0.932
13	1.083	683.863	0.710
14	1.167	736.468	0.539
15	1.250	789.073	0.526
16	1.333	841.678	0.372
Sum = 100.000			Sum= 60.368

-----  
 The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	4.40	0.640 0.243   ( 0.487)	0.397

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

2	0.17	4.50	0.655	0.243	( 0.498)	0.412
3	0.25	5.40	0.786	0.243	( 0.597)	0.543
4	0.33	5.40	0.786	0.243	( 0.597)	0.543
5	0.42	5.70	0.830	0.243	( 0.631)	0.587
6	0.50	6.40	0.932	0.243	( 0.708)	0.689
7	0.58	7.90	1.150	0.243	( 0.874)	0.907
8	0.67	9.10	1.325	0.243	( 1.007)	1.082
9	0.75	12.80	1.863	0.243	( 1.416)	1.620
10	0.83	25.60	3.726	0.243	( 2.832)	3.483
11	0.92	7.90	1.150	0.243	( 0.874)	0.907
12	1.00	4.90	0.713	0.243	( 0.542)	0.470

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.6

Flood volume = Effective rainfall 0.97 (In)  
times area 59.9 (Ac.) / [(In) / (Ft.)] = 4.8 (Ac.Ft)

Total soil loss = 0.24 (In)  
Total soil loss = 1.213 (Ac.Ft)  
Total rainfall = 1.21 (In)  
Flood volume = 210898.3 Cubic Feet  
Total soil loss = 52853.4 Cubic Feet

-----  
Peak flow rate of this hydrograph = 107.726 (CFS)  
-----

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1 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time (h+m)	Volume Ac.Ft	Q (CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0110	1.59	Q				
0+10	0.0691	8.45	VQ				
0+15	0.1798	16.06	V Q				
0+20	0.3275	21.46	V Q				
0+25	0.5036	25.57	VQ				
0+30	0.7022	28.83	Q				
0+35	0.9333	33.55	QV				
0+40	1.2159	41.04	Q V				
0+45	1.5711	51.57	Q V				
0+50	2.0803	73.95	Q V				
0+55	2.8223	107.73	Q V				
1+ 0	3.5097	99.82	Q V				
1+ 5	3.9452	63.24	Q			V	
1+10	4.2123	38.78	Q			V	
1+15	4.3796	24.29	Q			V	
1+20	4.4976	17.13	Q			V	
1+25	4.5853	12.72	Q			V	
1+30	4.6514	9.60	Q			V	
1+35	4.7038	7.60	Q			V	
1+40	4.7441	5.86	Q			V	
1+45	4.7754	4.53	Q			V	
1+50	4.7989	3.41	Q			V	
1+55	4.8164	2.55	Q			V	
2+ 0	4.8300	1.97	Q			V	
2+ 5	4.8384	1.22	Q			V	
2+10	4.8408	0.35	Q			V	
2+15	4.8416	0.11	Q			V	

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 10/04/21 File: kxbprh1100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area B = 59.9 Ac  
Hydrology Proposed Condition  
100-year 1-hour storm

-----  
Drainage Area = 59.90 (Ac.) = 0.094 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 59.90 (Ac.) = 0.094 Sq. Mi.  
Length along longest watercourse = 3886.00 (Ft.)  
Length along longest watercourse measured to centroid = 1867.00 (Ft.)  
Length along longest watercourse = 0.736 Mi.  
Length along longest watercourse measured to centroid = 0.354 Mi.  
Difference in elevation = 144.00 (Ft.)  
Slope along watercourse = 195.6562 Ft./Mi.  
Average Manning's 'N' = 0.030  
Lag time = 0.158 Hr.  
Lag time = 9.50 Min.  
25% of lag time = 2.38 Min.  
40% of lag time = 3.80 Min.  
Unit time = 5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	0.53	31.63

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	1.59	95.24

STORM EVENT (YEAR) = 100.00

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Area Averaged 2-Year Rainfall = 0.528(In)  
 Area Averaged 100-Year Rainfall = 1.590(In)

Point rain (area averaged) = 1.590(In)  
 Areal adjustment factor = 99.95 %  
 Adjusted average point rain = 1.589(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
37.500	79.00	0.000
14.200	69.00	0.650
5.300	69.00	0.150
2.900	69.00	0.020
Total Area Entered = 59.90(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
79.0	90.4	0.125	0.000	0.125	0.626	0.078
69.0	84.4	0.194	0.650	0.080	0.237	0.019
69.0	84.4	0.194	0.150	0.168	0.088	0.015
69.0	84.4	0.194	0.020	0.190	0.048	0.009
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.121  
 Minimum soil loss rate ((In/Hr)) = 0.061  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.760

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

U n i t H y d r o g r a p h  
 VALLEY S-Curve

-----  
 Unit Hydrograph Data  
 -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.605	6.630
2	0.167	105.210	28.326
3	0.250	157.815	28.499
4	0.333	210.419	12.086
5	0.417	263.024	6.572
6	0.500	315.629	4.569
7	0.583	368.234	3.283
8	0.667	420.839	2.445
9	0.750	473.444	1.788
10	0.833	526.049	1.543
11	0.917	578.654	1.180
12	1.000	631.258	0.932
13	1.083	683.863	0.710
14	1.167	736.468	0.539
15	1.250	789.073	0.526
16	1.333	841.678	0.372
Sum = 100.000			Sum= 60.368

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective
-----------	---------	------------	-------------------	-----------

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	4.40	0.839	0.121	( 0.638)	0.718
2	0.17	4.50	0.858	0.121	( 0.652)	0.737
3	0.25	5.40	1.030	0.121	( 0.783)	0.909
4	0.33	5.40	1.030	0.121	( 0.783)	0.909
5	0.42	5.70	1.087	0.121	( 0.826)	0.966
6	0.50	6.40	1.220	0.121	( 0.928)	1.099
7	0.58	7.90	1.507	0.121	( 1.145)	1.385
8	0.67	9.10	1.735	0.121	( 1.319)	1.614
9	0.75	12.80	2.441	0.121	( 1.855)	2.320
10	0.83	25.60	4.882	0.121	( 3.710)	4.761
11	0.92	7.90	1.507	0.121	( 1.145)	1.385
12	1.00	4.90	0.934	0.121	( 0.710)	0.813

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.6

Flood volume = Effective rainfall 1.47(In)  
times area 59.9(Ac.)/[ (In)/(Ft.) ] = 7.3(Ac.Ft)  
Total soil loss = 0.12(In)  
Total soil loss = 0.605(Ac.Ft)  
Total rainfall = 1.59(In)  
Flood volume = 319172.6 Cubic Feet  
Total soil loss = 26364.6 Cubic Feet

-----  
Peak flow rate of this hydrograph = 152.673(CFS)  
-----

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1 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
-----

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0198	2.87	Q				
0+10	0.1247	15.23	V Q				
0+15	0.3217	28.60	V Q				
0+20	0.5772	37.11	V Q				
0+25	0.8753	43.28	V Q				
0+30	1.2065	48.10	V Q				
0+35	1.5831	54.67	V Q				
0+40	2.0291	64.77	VQ				
0+45	2.5717	78.78	VQ				
0+50	3.3174	108.28	V Q				
0+55	4.3689	152.67	V Q				
1+ 0	5.3498	142.43	QV				
1+ 5	5.9958	93.80	Q			V	
1+10	6.3983	58.45	Q			V	
1+15	6.6472	36.13	Q			V	
1+20	6.8218	25.36	Q			V	
1+25	6.9513	18.80	Q			V	
1+30	7.0489	14.17	Q			V	
1+35	7.1257	11.16	Q			V	
1+40	7.1848	8.58	Q			V	
1+45	7.2305	6.63	Q			V	
1+50	7.2648	4.98	Q			V	
1+55	7.2903	3.70	Q			V	
2+ 0	7.3098	2.83	Q			V	
2+ 5	7.3220	1.78	Q			V	
2+10	7.3259	0.57	Q			V	
2+15	7.3272	0.18	Q			V	

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### Unit Hydrograph Analysis

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 Study date 10/04/21 File: kxbprh3100.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area B = 59.9 Ac  
 Hydrology Proposed Condition  
 100-year 3-hour storm

-----  
 Drainage Area = 59.90 (Ac.) = 0.094 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 59.90 (Ac.) = 0.094 Sq. Mi.  
 Length along longest watercourse = 3886.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1867.00 (Ft.)  
 Length along longest watercourse = 0.736 Mi.  
 Length along longest watercourse measured to centroid = 0.354 Mi.  
 Difference in elevation = 144.00 (Ft.)  
 Slope along watercourse = 195.6562 Ft./Mi.  
 Average Manning's 'N' = 0.030  
 Lag time = 0.158 Hr.  
 Lag time = 9.50 Min.  
 25% of lag time = 2.38 Min.  
 40% of lag time = 3.80 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 3 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	0.91	54.57

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	2.33	139.57

STORM EVENT (YEAR) = 100.00

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Area Averaged 2-Year Rainfall = 0.911(In)  
 Area Averaged 100-Year Rainfall = 2.330(In)

Point rain (area averaged) = 2.330(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 2.329(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
37.500	79.00	0.000
14.200	69.00	0.650
5.300	69.00	0.150
2.900	69.00	0.020
Total Area Entered = 59.90(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
79.0	90.4	0.125	0.000	0.125	0.626	0.078
69.0	84.4	0.194	0.650	0.080	0.237	0.019
69.0	84.4	0.194	0.150	0.168	0.088	0.015
69.0	84.4	0.194	0.020	0.190	0.048	0.009
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.121  
 Minimum soil loss rate ((In/Hr)) = 0.061  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.760

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.605	6.630
2	0.167	105.210	28.326
3	0.250	157.815	28.499
4	0.333	210.419	12.086
5	0.417	263.024	6.572
6	0.500	315.629	4.569
7	0.583	368.234	3.283
8	0.667	420.839	2.445
9	0.750	473.444	1.788
10	0.833	526.049	1.543
11	0.917	578.654	1.180
12	1.000	631.258	0.932
13	1.083	683.863	0.710
14	1.167	736.468	0.539
15	1.250	789.073	0.526
16	1.333	841.678	0.372
Sum = 100.000			Sum= 60.368

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max   Low	Effective (In/Hr)
1	0.08	1.30	0.363   ( 0.276)	0.242

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

2	0.17	1.30	0.363	0.121	( 0.276)	0.242
3	0.25	1.10	0.307	0.121	( 0.234)	0.186
4	0.33	1.50	0.419	0.121	( 0.319)	0.298
5	0.42	1.50	0.419	0.121	( 0.319)	0.298
6	0.50	1.80	0.503	0.121	( 0.382)	0.382
7	0.58	1.50	0.419	0.121	( 0.319)	0.298
8	0.67	1.80	0.503	0.121	( 0.382)	0.382
9	0.75	1.80	0.503	0.121	( 0.382)	0.382
10	0.83	1.50	0.419	0.121	( 0.319)	0.298
11	0.92	1.60	0.447	0.121	( 0.340)	0.326
12	1.00	1.80	0.503	0.121	( 0.382)	0.382
13	1.08	2.20	0.615	0.121	( 0.467)	0.494
14	1.17	2.20	0.615	0.121	( 0.467)	0.494
15	1.25	2.20	0.615	0.121	( 0.467)	0.494
16	1.33	2.00	0.559	0.121	( 0.425)	0.438
17	1.42	2.60	0.727	0.121	( 0.552)	0.606
18	1.50	2.70	0.755	0.121	( 0.574)	0.633
19	1.58	2.40	0.671	0.121	( 0.510)	0.550
20	1.67	2.70	0.755	0.121	( 0.574)	0.633
21	1.75	3.30	0.922	0.121	( 0.701)	0.801
22	1.83	3.10	0.867	0.121	( 0.659)	0.745
23	1.92	2.90	0.811	0.121	( 0.616)	0.689
24	2.00	3.00	0.839	0.121	( 0.637)	0.717
25	2.08	3.10	0.867	0.121	( 0.659)	0.745
26	2.17	4.20	1.174	0.121	( 0.892)	1.053
27	2.25	5.00	1.398	0.121	( 1.062)	1.276
28	2.33	3.50	0.978	0.121	( 0.744)	0.857
29	2.42	6.80	1.901	0.121	( 1.445)	1.780
30	2.50	7.30	2.041	0.121	( 1.551)	1.919
31	2.58	8.20	2.292	0.121	( 1.742)	2.171
32	2.67	5.90	1.649	0.121	( 1.253)	1.528
33	2.75	2.00	0.559	0.121	( 0.425)	0.438
34	2.83	1.80	0.503	0.121	( 0.382)	0.382
35	2.92	1.80	0.503	0.121	( 0.382)	0.382
36	3.00	0.60	0.168	0.121	( 0.127)	0.046

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.6

Flood volume = Effective rainfall 1.97(In)  
times area 59.9(Ac.) / [(In)/(Ft.)] = 9.8(Ac.Ft)

Total soil loss = 0.36(In)  
Total soil loss = 1.816(Ac.Ft)  
Total rainfall = 2.33(In)  
Flood volume = 427401.6 Cubic Feet  
Total soil loss = 79093.8 Cubic Feet

-----  
Peak flow rate of this hydrograph = 102.586(CFS)  
-----

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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0067	0.97	Q				
0+10	0.0419	5.11	VQ				
0+15	0.1043	9.06	VQ				
0+20	0.1753	10.31	V Q				
0+25	0.2595	12.23	VQ				
0+30	0.3611	14.75	VQ				
0+35	0.4776	16.92	V Q				



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

0+40	0.6010	17.91	VQ				
0+45	0.7316	18.97	VQ				
0+50	0.8705	20.17	VQ				
0+55	1.0058	19.63	QV				
1+ 0	1.1391	19.36	QV				
1+ 5	1.2837	20.99	QV				
1+10	1.4490	24.00	QV				
1+15	1.6311	26.44	QV				
1+20	1.8193	27.32	Q V				
1+25	2.0097	27.65	Q V				
1+30	2.2171	30.11	Q V				
1+35	2.4447	33.05	Q V				
1+40	2.6766	33.67	Q V				
1+45	2.9191	35.21	Q V				
1+50	3.1896	39.28	Q V				
1+55	3.4768	41.71	Q V				
2+ 0	3.7629	41.54	Q V				
2+ 5	4.0502	41.72	Q V				
2+10	4.3532	43.99	Q V				
2+15	4.7043	50.98	Q V				
2+20	5.1096	58.85	Q V				
2+25	5.5347	61.72	Q V				
2+30	6.0437	73.91	Q V				
2+35	6.6775	92.03	Q V				
2+40	7.3840	102.59	Q V				
2+45	8.0454	96.04	Q V				
2+50	8.5338	70.92	Q V				
2+55	8.8760	49.69	Q V				
3+ 0	9.1461	39.21	Q V				
3+ 5	9.3418	28.41	Q V				
3+10	9.4705	18.68	Q V				
3+15	9.5614	13.21	Q V				
3+20	9.6301	9.97	Q V				
3+25	9.6828	7.66	Q V				
3+30	9.7224	5.75	Q V				
3+35	9.7522	4.32	Q V				
3+40	9.7749	3.30	Q V				
3+45	9.7910	2.34	Q V				
3+50	9.8015	1.53	Q V				
3+55	9.8070	0.80	Q V				
4+ 0	9.8095	0.36	Q V				
4+ 5	9.8110	0.22	Q V				
4+10	9.8117	0.10	Q V				
4+15	9.8118	0.01	Q V				

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 10/04/21 File: kxbprh6100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area B = 59.9 Ac  
Hydrology Proposed Condition  
100-year 6-hour storm

-----  
Drainage Area =        59.90 (Ac.)    =        0.094 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment =        59.90 (Ac.)    =        0.094 Sq. Mi.  
Length along longest watercourse =        3886.00 (Ft.)  
Length along longest watercourse measured to centroid =        1867.00 (Ft.)  
Length along longest watercourse =        0.736 Mi.  
Length along longest watercourse measured to centroid =        0.354 Mi.  
Difference in elevation =        144.00 (Ft.)  
Slope along watercourse =        195.6562 Ft./Mi.  
Average Manning's 'N' = 0.030  
Lag time =        0.158 Hr.  
Lag time =        9.50 Min.  
25% of lag time =        2.38 Min.  
40% of lag time =        3.80 Min.  
Unit time =        5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow =        0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	1.29	77.27

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	3.17	189.88

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 1.290 (In)  
Area Averaged 100-Year Rainfall = 3.170 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 3.170(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 3.169(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
37.500	79.00	0.000
14.200	69.00	0.650
5.300	69.00	0.150
2.900	69.00	0.020
Total Area Entered = 59.90 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
79.0	90.4	0.125	0.000	0.125	0.626	0.078
69.0	84.4	0.194	0.650	0.080	0.237	0.019
69.0	84.4	0.194	0.150	0.168	0.088	0.015
69.0	84.4	0.194	0.020	0.190	0.048	0.009
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.121  
 Minimum soil loss rate ((In/Hr)) = 0.061  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.760

-----  
 U n i t H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	52.605	4.002
2	0.167	105.210	17.100
3	0.250	157.815	17.204
4	0.333	210.419	7.296
5	0.417	263.024	3.967
6	0.500	315.629	2.758
7	0.583	368.234	1.982
8	0.667	420.839	1.476
9	0.750	473.444	1.079
10	0.833	526.049	0.931
11	0.917	578.654	0.712
12	1.000	631.258	0.562
13	1.083	683.863	0.429
14	1.167	736.468	0.326
15	1.250	789.073	0.318
16	1.333	841.678	0.225
		Sum = 100.000	Sum= 60.368

-----

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)		Effective
(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.190	0.121	( 0.145)	0.069
2	0.17	0.228	0.121	( 0.173)	0.107
3	0.25	0.228	0.121	( 0.173)	0.107

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

4	0.33	0.60	0.228	0.121	( 0.173)	0.107
5	0.42	0.60	0.228	0.121	( 0.173)	0.107
6	0.50	0.70	0.266	0.121	( 0.202)	0.145
7	0.58	0.70	0.266	0.121	( 0.202)	0.145
8	0.67	0.70	0.266	0.121	( 0.202)	0.145
9	0.75	0.70	0.266	0.121	( 0.202)	0.145
10	0.83	0.70	0.266	0.121	( 0.202)	0.145
11	0.92	0.70	0.266	0.121	( 0.202)	0.145
12	1.00	0.80	0.304	0.121	( 0.231)	0.183
13	1.08	0.80	0.304	0.121	( 0.231)	0.183
14	1.17	0.80	0.304	0.121	( 0.231)	0.183
15	1.25	0.80	0.304	0.121	( 0.231)	0.183
16	1.33	0.80	0.304	0.121	( 0.231)	0.183
17	1.42	0.80	0.304	0.121	( 0.231)	0.183
18	1.50	0.80	0.304	0.121	( 0.231)	0.183
19	1.58	0.80	0.304	0.121	( 0.231)	0.183
20	1.67	0.80	0.304	0.121	( 0.231)	0.183
21	1.75	0.80	0.304	0.121	( 0.231)	0.183
22	1.83	0.80	0.304	0.121	( 0.231)	0.183
23	1.92	0.80	0.304	0.121	( 0.231)	0.183
24	2.00	0.90	0.342	0.121	( 0.260)	0.221
25	2.08	0.80	0.304	0.121	( 0.231)	0.183
26	2.17	0.90	0.342	0.121	( 0.260)	0.221
27	2.25	0.90	0.342	0.121	( 0.260)	0.221
28	2.33	0.90	0.342	0.121	( 0.260)	0.221
29	2.42	0.90	0.342	0.121	( 0.260)	0.221
30	2.50	0.90	0.342	0.121	( 0.260)	0.221
31	2.58	0.90	0.342	0.121	( 0.260)	0.221
32	2.67	0.90	0.342	0.121	( 0.260)	0.221
33	2.75	1.00	0.380	0.121	( 0.289)	0.259
34	2.83	1.00	0.380	0.121	( 0.289)	0.259
35	2.92	1.00	0.380	0.121	( 0.289)	0.259
36	3.00	1.00	0.380	0.121	( 0.289)	0.259
37	3.08	1.00	0.380	0.121	( 0.289)	0.259
38	3.17	1.10	0.418	0.121	( 0.318)	0.297
39	3.25	1.10	0.418	0.121	( 0.318)	0.297
40	3.33	1.10	0.418	0.121	( 0.318)	0.297
41	3.42	1.20	0.456	0.121	( 0.347)	0.335
42	3.50	1.30	0.494	0.121	( 0.376)	0.373
43	3.58	1.40	0.532	0.121	( 0.405)	0.411
44	3.67	1.40	0.532	0.121	( 0.405)	0.411
45	3.75	1.50	0.570	0.121	( 0.434)	0.449
46	3.83	1.50	0.570	0.121	( 0.434)	0.449
47	3.92	1.60	0.609	0.121	( 0.462)	0.487
48	4.00	1.60	0.609	0.121	( 0.462)	0.487
49	4.08	1.70	0.647	0.121	( 0.491)	0.525
50	4.17	1.80	0.685	0.121	( 0.520)	0.563
51	4.25	1.90	0.723	0.121	( 0.549)	0.601
52	4.33	2.00	0.761	0.121	( 0.578)	0.639
53	4.42	2.10	0.799	0.121	( 0.607)	0.677
54	4.50	2.10	0.799	0.121	( 0.607)	0.677
55	4.58	2.20	0.837	0.121	( 0.636)	0.715
56	4.67	2.30	0.875	0.121	( 0.665)	0.753
57	4.75	2.40	0.913	0.121	( 0.694)	0.792
58	4.83	2.40	0.913	0.121	( 0.694)	0.792
59	4.92	2.50	0.951	0.121	( 0.723)	0.830
60	5.00	2.60	0.989	0.121	( 0.752)	0.868
61	5.08	3.10	1.179	0.121	( 0.896)	1.058
62	5.17	3.60	1.369	0.121	( 1.041)	1.248
63	5.25	3.90	1.483	0.121	( 1.127)	1.362
64	5.33	4.20	1.597	0.121	( 1.214)	1.476
65	5.42	4.70	1.788	0.121	( 1.359)	1.666
66	5.50	5.60	2.130	0.121	( 1.619)	2.009

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

67	5.58	1.90	0.723	0.121	( 0.549)	0.601
68	5.67	0.90	0.342	0.121	( 0.260)	0.221
69	5.75	0.60	0.228	0.121	( 0.173)	0.107
70	5.83	0.50	0.190	0.121	( 0.145)	0.069
71	5.92	0.30	0.114	( 0.121)	0.087	0.027
72	6.00	0.20	0.076	( 0.121)	0.058	0.018

(Loss Rate Not Used)

Sum = 100.0 Sum = 29.4

Flood volume = Effective rainfall 2.45 (In)  
times area 59.9(Ac.)/[ (In)/(Ft.) ] = 12.2 (Ac.Ft)  
Total soil loss = 0.72 (In)  
Total soil loss = 3.591 (Ac.Ft)  
Total rainfall = 3.17 (In)  
Flood volume = 532721.1 Cubic Feet  
Total soil loss = 156412.2 Cubic Feet

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Peak flow rate of this hydrograph = 91.965 (CFS)  
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6 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))  
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	25.0	50.0	75.0	100.0
0+ 5	0.0019	0.28	Q				
0+10	0.0130	1.61	Q				
0+15	0.0367	3.44	VQ				
0+20	0.0684	4.60	VQ				
0+25	0.1039	5.15	V Q				
0+30	0.1428	5.65	V Q				
0+35	0.1878	6.54	V Q				
0+40	0.2385	7.37	V Q				
0+45	0.2921	7.78	V Q				
0+50	0.3475	8.03	V Q				
0+55	0.4041	8.22	V Q				
1+ 0	0.4628	8.52	V Q				
1+ 5	0.5266	9.28	V Q				
1+10	0.5956	10.01	V Q				
1+15	0.6669	10.36	V Q				
1+20	0.7397	10.56	V Q				
1+25	0.8133	10.70	V Q				
1+30	0.8877	10.79	V Q				
1+35	0.9624	10.86	VQ				
1+40	1.0376	10.91	VQ				
1+45	1.1130	10.96	VQ				
1+50	1.1887	10.98	VQ				
1+55	1.2645	11.00	Q				
2+ 0	1.3414	11.17	Q				
2+ 5	1.4219	11.68	Q				
2+10	1.5035	11.85	Q				
2+15	1.5871	12.13	QV				
2+20	1.6743	12.66	Q				
2+25	1.7631	12.89	Q				
2+30	1.8527	13.02	QV				
2+35	1.9429	13.10	QV				
2+40	2.0336	13.16	QV				
2+45	2.1256	13.36	QV				
2+50	2.2223	14.05	Q V				
2+55	2.3238	14.73	Q V				
3+ 0	2.4273	15.03	QV				

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

3+ 5	2.5320	15.20		Q V					
3+10	2.6386	15.47		Q V					
3+15	2.7502	16.21		Q V					
3+20	2.8667	16.92		Q V					
3+25	2.9866	17.40		Q V					
3+30	3.1133	18.39		Q V					
3+35	3.2509	19.98		Q V					
3+40	3.4000	21.66		Q V					
3+45	3.5582	22.97		Q V					
3+50	3.7249	24.21		Q V					
3+55	3.8998	25.39		Q V					
4+ 0	4.0830	26.59		Q V					
4+ 5	4.2740	27.74		Q V					
4+10	4.4743	29.08		Q V					
4+15	4.6870	30.88		Q V					
4+20	4.9134	32.87		Q V					
4+25	5.1541	34.95		Q V					
4+30	5.4084	36.93		Q V					
4+35	5.6732	38.45		Q V					
4+40	5.9488	40.01		Q V					
4+45	6.2378	41.96		Q V					
4+50	6.5401	43.90		Q V					
4+55	6.8528	45.40		Q V					
5+ 0	7.1760	46.94		Q V					
5+ 5	7.5169	49.49		Q V					
5+10	7.8942	54.79		Q V					
5+15	8.3245	62.47		Q V					
5+20	8.8065	70.00		Q V					
5+25	9.3379	77.15		Q V					
5+30	9.9309	86.10		Q V					
5+35	10.5642	91.97		Q V					
5+40	11.0822	75.21		Q					
5+45	11.4156	48.41		Q					
5+50	11.6375	32.23		Q					
5+55	11.7964	23.07		Q					
6+ 0	11.9128	16.91		Q					
6+ 5	11.9989	12.51		Q					
6+10	12.0629	9.29		Q					
6+15	12.1114	7.03		Q					
6+20	12.1480	5.32		Q					
6+25	12.1755	4.00		Q					
6+30	12.1957	2.93		Q					
6+35	12.2101	2.09		Q					
6+40	12.2202	1.46		Q					
6+45	12.2259	0.84		Q					
6+50	12.2280	0.30		Q					
6+55	12.2288	0.13		Q					
7+ 0	12.2293	0.06		Q					
7+ 5	12.2295	0.03		Q					
7+10	12.2296	0.01		Q					
7+15	12.2296	0.00		Q					

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 10/04/21 File: kxbprh24100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

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English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area B = 59.9 Ac  
Hydrology Proposed Condition  
100-year 24-hour storm

-----  
Drainage Area =        59.90 (Ac.)    =        0.094 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment =        59.90 (Ac.)    =        0.094 Sq. Mi.  
Length along longest watercourse =        3886.00 (Ft.)  
Length along longest watercourse measured to centroid =        1867.00 (Ft.)  
Length along longest watercourse =        0.736 Mi.  
Length along longest watercourse measured to centroid =        0.354 Mi.  
Difference in elevation =        144.00 (Ft.)  
Slope along watercourse =        195.6562 Ft./Mi.  
Average Manning's 'N' = 0.030  
Lag time =        0.158 Hr.  
Lag time =        9.50 Min.  
25% of lag time =        2.38 Min.  
40% of lag time =        3.80 Min.  
Unit time =        5.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow =        0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	2.25	134.78

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
59.90	5.87	351.61

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 2.250 (In)  
Area Averaged 100-Year Rainfall = 5.870 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 5.870(In)  
 Areal adjustment factor = 99.99 %  
 Adjusted average point rain = 5.869(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
37.500	79.00	0.000
14.200	69.00	0.650
5.300	69.00	0.150
2.900	69.00	0.020
Total Area Entered = 59.90 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
79.0	90.4	0.125	0.000	0.125	0.626	0.078
69.0	84.4	0.194	0.650	0.080	0.237	0.019
69.0	84.4	0.194	0.150	0.168	0.088	0.015
69.0	84.4	0.194	0.020	0.190	0.048	0.009
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.121  
 Minimum soil loss rate ((In/Hr)) = 0.061  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.760

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 U n i t   H y d r o g r a p h  
 VALLEY S-Curve  
 -----

Unit Hydrograph Data  
 -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	52.605	4.002
2	0.167	105.210	17.100
3	0.250	157.815	17.204
4	0.333	210.419	7.296
5	0.417	263.024	3.967
6	0.500	315.629	2.758
7	0.583	368.234	1.982
8	0.667	420.839	1.476
9	0.750	473.444	1.079
10	0.833	526.049	0.931
11	0.917	578.654	0.712
12	1.000	631.258	0.562
13	1.083	683.863	0.429
14	1.167	736.468	0.326
15	1.250	789.073	0.318
16	1.333	841.678	0.225
		Sum = 100.000	Sum= 60.368

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The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective
(Hr.)	Percent	(In/Hr)	Max   Low	(In/Hr)
1	0.08	0.047	( 0.215)   0.036	0.011
2	0.17	0.047	( 0.214)   0.036	0.011
3	0.25	0.047	( 0.213)   0.036	0.011



**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

4	0.33	0.10	0.070	( 0.212)	0.054	0.017
5	0.42	0.10	0.070	( 0.212)	0.054	0.017
6	0.50	0.10	0.070	( 0.211)	0.054	0.017
7	0.58	0.10	0.070	( 0.210)	0.054	0.017
8	0.67	0.10	0.070	( 0.209)	0.054	0.017
9	0.75	0.10	0.070	( 0.208)	0.054	0.017
10	0.83	0.13	0.094	( 0.208)	0.071	0.023
11	0.92	0.13	0.094	( 0.207)	0.071	0.023
12	1.00	0.13	0.094	( 0.206)	0.071	0.023
13	1.08	0.10	0.070	( 0.205)	0.054	0.017
14	1.17	0.10	0.070	( 0.204)	0.054	0.017
15	1.25	0.10	0.070	( 0.203)	0.054	0.017
16	1.33	0.10	0.070	( 0.203)	0.054	0.017
17	1.42	0.10	0.070	( 0.202)	0.054	0.017
18	1.50	0.10	0.070	( 0.201)	0.054	0.017
19	1.58	0.10	0.070	( 0.200)	0.054	0.017
20	1.67	0.10	0.070	( 0.199)	0.054	0.017
21	1.75	0.10	0.070	( 0.199)	0.054	0.017
22	1.83	0.13	0.094	( 0.198)	0.071	0.023
23	1.92	0.13	0.094	( 0.197)	0.071	0.023
24	2.00	0.13	0.094	( 0.196)	0.071	0.023
25	2.08	0.13	0.094	( 0.195)	0.071	0.023
26	2.17	0.13	0.094	( 0.195)	0.071	0.023
27	2.25	0.13	0.094	( 0.194)	0.071	0.023
28	2.33	0.13	0.094	( 0.193)	0.071	0.023
29	2.42	0.13	0.094	( 0.192)	0.071	0.023
30	2.50	0.13	0.094	( 0.191)	0.071	0.023
31	2.58	0.17	0.117	( 0.191)	0.089	0.028
32	2.67	0.17	0.117	( 0.190)	0.089	0.028
33	2.75	0.17	0.117	( 0.189)	0.089	0.028
34	2.83	0.17	0.117	( 0.188)	0.089	0.028
35	2.92	0.17	0.117	( 0.188)	0.089	0.028
36	3.00	0.17	0.117	( 0.187)	0.089	0.028
37	3.08	0.17	0.117	( 0.186)	0.089	0.028
38	3.17	0.17	0.117	( 0.185)	0.089	0.028
39	3.25	0.17	0.117	( 0.185)	0.089	0.028
40	3.33	0.17	0.117	( 0.184)	0.089	0.028
41	3.42	0.17	0.117	( 0.183)	0.089	0.028
42	3.50	0.17	0.117	( 0.182)	0.089	0.028
43	3.58	0.17	0.117	( 0.181)	0.089	0.028
44	3.67	0.17	0.117	( 0.181)	0.089	0.028
45	3.75	0.17	0.117	( 0.180)	0.089	0.028
46	3.83	0.20	0.141	( 0.179)	0.107	0.034
47	3.92	0.20	0.141	( 0.178)	0.107	0.034
48	4.00	0.20	0.141	( 0.178)	0.107	0.034
49	4.08	0.20	0.141	( 0.177)	0.107	0.034
50	4.17	0.20	0.141	( 0.176)	0.107	0.034
51	4.25	0.20	0.141	( 0.175)	0.107	0.034
52	4.33	0.23	0.164	( 0.175)	0.125	0.039
53	4.42	0.23	0.164	( 0.174)	0.125	0.039
54	4.50	0.23	0.164	( 0.173)	0.125	0.039
55	4.58	0.23	0.164	( 0.172)	0.125	0.039
56	4.67	0.23	0.164	( 0.172)	0.125	0.039
57	4.75	0.23	0.164	( 0.171)	0.125	0.039
58	4.83	0.27	0.188	( 0.170)	0.143	0.045
59	4.92	0.27	0.188	( 0.169)	0.143	0.045
60	5.00	0.27	0.188	( 0.169)	0.143	0.045
61	5.08	0.20	0.141	( 0.168)	0.107	0.034
62	5.17	0.20	0.141	( 0.167)	0.107	0.034
63	5.25	0.20	0.141	( 0.167)	0.107	0.034
64	5.33	0.23	0.164	( 0.166)	0.125	0.039
65	5.42	0.23	0.164	( 0.165)	0.125	0.039
66	5.50	0.23	0.164	( 0.164)	0.125	0.039

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

67	5.58	0.27	0.188	( 0.164)	0.143	0.045
68	5.67	0.27	0.188	( 0.163)	0.143	0.045
69	5.75	0.27	0.188	( 0.162)	0.143	0.045
70	5.83	0.27	0.188	( 0.161)	0.143	0.045
71	5.92	0.27	0.188	( 0.161)	0.143	0.045
72	6.00	0.27	0.188	( 0.160)	0.143	0.045
73	6.08	0.30	0.211	0.159	( 0.161)	0.052
74	6.17	0.30	0.211	0.159	( 0.161)	0.053
75	6.25	0.30	0.211	0.158	( 0.161)	0.053
76	6.33	0.30	0.211	0.157	( 0.161)	0.054
77	6.42	0.30	0.211	0.157	( 0.161)	0.055
78	6.50	0.30	0.211	0.156	( 0.161)	0.055
79	6.58	0.33	0.235	0.155	( 0.178)	0.080
80	6.67	0.33	0.235	0.154	( 0.178)	0.080
81	6.75	0.33	0.235	0.154	( 0.178)	0.081
82	6.83	0.33	0.235	0.153	( 0.178)	0.082
83	6.92	0.33	0.235	0.152	( 0.178)	0.082
84	7.00	0.33	0.235	0.152	( 0.178)	0.083
85	7.08	0.33	0.235	0.151	( 0.178)	0.084
86	7.17	0.33	0.235	0.150	( 0.178)	0.085
87	7.25	0.33	0.235	0.150	( 0.178)	0.085
88	7.33	0.37	0.258	0.149	( 0.196)	0.109
89	7.42	0.37	0.258	0.148	( 0.196)	0.110
90	7.50	0.37	0.258	0.148	( 0.196)	0.111
91	7.58	0.40	0.282	0.147	( 0.214)	0.135
92	7.67	0.40	0.282	0.146	( 0.214)	0.136
93	7.75	0.40	0.282	0.146	( 0.214)	0.136
94	7.83	0.43	0.305	0.145	( 0.232)	0.160
95	7.92	0.43	0.305	0.144	( 0.232)	0.161
96	8.00	0.43	0.305	0.143	( 0.232)	0.162
97	8.08	0.50	0.352	0.143	( 0.268)	0.209
98	8.17	0.50	0.352	0.142	( 0.268)	0.210
99	8.25	0.50	0.352	0.142	( 0.268)	0.211
100	8.33	0.50	0.352	0.141	( 0.268)	0.211
101	8.42	0.50	0.352	0.140	( 0.268)	0.212
102	8.50	0.50	0.352	0.140	( 0.268)	0.213
103	8.58	0.53	0.376	0.139	( 0.285)	0.237
104	8.67	0.53	0.376	0.138	( 0.285)	0.237
105	8.75	0.53	0.376	0.138	( 0.285)	0.238
106	8.83	0.57	0.399	0.137	( 0.303)	0.262
107	8.92	0.57	0.399	0.136	( 0.303)	0.263
108	9.00	0.57	0.399	0.136	( 0.303)	0.263
109	9.08	0.63	0.446	0.135	( 0.339)	0.311
110	9.17	0.63	0.446	0.134	( 0.339)	0.312
111	9.25	0.63	0.446	0.134	( 0.339)	0.312
112	9.33	0.67	0.470	0.133	( 0.357)	0.336
113	9.42	0.67	0.470	0.132	( 0.357)	0.337
114	9.50	0.67	0.470	0.132	( 0.357)	0.338
115	9.58	0.70	0.493	0.131	( 0.375)	0.362
116	9.67	0.70	0.493	0.131	( 0.375)	0.362
117	9.75	0.70	0.493	0.130	( 0.375)	0.363
118	9.83	0.73	0.516	0.129	( 0.393)	0.387
119	9.92	0.73	0.516	0.129	( 0.393)	0.388
120	10.00	0.73	0.516	0.128	( 0.393)	0.388
121	10.08	0.50	0.352	0.127	( 0.268)	0.225
122	10.17	0.50	0.352	0.127	( 0.268)	0.225
123	10.25	0.50	0.352	0.126	( 0.268)	0.226
124	10.33	0.50	0.352	0.126	( 0.268)	0.227
125	10.42	0.50	0.352	0.125	( 0.268)	0.227
126	10.50	0.50	0.352	0.124	( 0.268)	0.228
127	10.58	0.67	0.470	0.124	( 0.357)	0.346
128	10.67	0.67	0.470	0.123	( 0.357)	0.346
129	10.75	0.67	0.470	0.123	( 0.357)	0.347

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

130	10.83	0.67	0.470	0.122	( 0.357)	0.348
131	10.92	0.67	0.470	0.121	( 0.357)	0.348
132	11.00	0.67	0.470	0.121	( 0.357)	0.349
133	11.08	0.63	0.446	0.120	( 0.339)	0.326
134	11.17	0.63	0.446	0.120	( 0.339)	0.327
135	11.25	0.63	0.446	0.119	( 0.339)	0.327
136	11.33	0.63	0.446	0.118	( 0.339)	0.328
137	11.42	0.63	0.446	0.118	( 0.339)	0.328
138	11.50	0.63	0.446	0.117	( 0.339)	0.329
139	11.58	0.57	0.399	0.117	( 0.303)	0.282
140	11.67	0.57	0.399	0.116	( 0.303)	0.283
141	11.75	0.57	0.399	0.115	( 0.303)	0.284
142	11.83	0.60	0.423	0.115	( 0.321)	0.308
143	11.92	0.60	0.423	0.114	( 0.321)	0.308
144	12.00	0.60	0.423	0.114	( 0.321)	0.309
145	12.08	0.83	0.587	0.113	( 0.446)	0.474
146	12.17	0.83	0.587	0.113	( 0.446)	0.474
147	12.25	0.83	0.587	0.112	( 0.446)	0.475
148	12.33	0.87	0.610	0.111	( 0.464)	0.499
149	12.42	0.87	0.610	0.111	( 0.464)	0.499
150	12.50	0.87	0.610	0.110	( 0.464)	0.500
151	12.58	0.93	0.657	0.110	( 0.500)	0.548
152	12.67	0.93	0.657	0.109	( 0.500)	0.548
153	12.75	0.93	0.657	0.109	( 0.500)	0.549
154	12.83	0.97	0.681	0.108	( 0.517)	0.573
155	12.92	0.97	0.681	0.108	( 0.517)	0.573
156	13.00	0.97	0.681	0.107	( 0.517)	0.574
157	13.08	1.13	0.798	0.107	( 0.607)	0.692
158	13.17	1.13	0.798	0.106	( 0.607)	0.692
159	13.25	1.13	0.798	0.105	( 0.607)	0.693
160	13.33	1.13	0.798	0.105	( 0.607)	0.693
161	13.42	1.13	0.798	0.104	( 0.607)	0.694
162	13.50	1.13	0.798	0.104	( 0.607)	0.694
163	13.58	0.77	0.540	0.103	( 0.410)	0.437
164	13.67	0.77	0.540	0.103	( 0.410)	0.437
165	13.75	0.77	0.540	0.102	( 0.410)	0.438
166	13.83	0.77	0.540	0.102	( 0.410)	0.438
167	13.92	0.77	0.540	0.101	( 0.410)	0.439
168	14.00	0.77	0.540	0.101	( 0.410)	0.439
169	14.08	0.90	0.634	0.100	( 0.482)	0.534
170	14.17	0.90	0.634	0.100	( 0.482)	0.534
171	14.25	0.90	0.634	0.099	( 0.482)	0.535
172	14.33	0.87	0.610	0.099	( 0.464)	0.512
173	14.42	0.87	0.610	0.098	( 0.464)	0.512
174	14.50	0.87	0.610	0.098	( 0.464)	0.513
175	14.58	0.87	0.610	0.097	( 0.464)	0.513
176	14.67	0.87	0.610	0.097	( 0.464)	0.514
177	14.75	0.87	0.610	0.096	( 0.464)	0.514
178	14.83	0.83	0.587	0.096	( 0.446)	0.491
179	14.92	0.83	0.587	0.095	( 0.446)	0.492
180	15.00	0.83	0.587	0.095	( 0.446)	0.492
181	15.08	0.80	0.563	0.094	( 0.428)	0.469
182	15.17	0.80	0.563	0.094	( 0.428)	0.470
183	15.25	0.80	0.563	0.093	( 0.428)	0.470
184	15.33	0.77	0.540	0.093	( 0.410)	0.447
185	15.42	0.77	0.540	0.092	( 0.410)	0.448
186	15.50	0.77	0.540	0.092	( 0.410)	0.448
187	15.58	0.63	0.446	0.091	( 0.339)	0.355
188	15.67	0.63	0.446	0.091	( 0.339)	0.355
189	15.75	0.63	0.446	0.090	( 0.339)	0.356
190	15.83	0.63	0.446	0.090	( 0.339)	0.356
191	15.92	0.63	0.446	0.089	( 0.339)	0.357
192	16.00	0.63	0.446	0.089	( 0.339)	0.357

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

193	16.08	0.13	0.094	( 0.089)	0.071	0.023
194	16.17	0.13	0.094	( 0.088)	0.071	0.023
195	16.25	0.13	0.094	( 0.088)	0.071	0.023
196	16.33	0.13	0.094	( 0.087)	0.071	0.023
197	16.42	0.13	0.094	( 0.087)	0.071	0.023
198	16.50	0.13	0.094	( 0.086)	0.071	0.023
199	16.58	0.10	0.070	( 0.086)	0.054	0.017
200	16.67	0.10	0.070	( 0.085)	0.054	0.017
201	16.75	0.10	0.070	( 0.085)	0.054	0.017
202	16.83	0.10	0.070	( 0.085)	0.054	0.017
203	16.92	0.10	0.070	( 0.084)	0.054	0.017
204	17.00	0.10	0.070	( 0.084)	0.054	0.017
205	17.08	0.17	0.117	0.083 ( 0.089)		0.034
206	17.17	0.17	0.117	0.083 ( 0.089)		0.034
207	17.25	0.17	0.117	0.082 ( 0.089)		0.035
208	17.33	0.17	0.117	0.082 ( 0.089)		0.035
209	17.42	0.17	0.117	0.082 ( 0.089)		0.036
210	17.50	0.17	0.117	0.081 ( 0.089)		0.036
211	17.58	0.17	0.117	0.081 ( 0.089)		0.037
212	17.67	0.17	0.117	0.080 ( 0.089)		0.037
213	17.75	0.17	0.117	0.080 ( 0.089)		0.037
214	17.83	0.13	0.094	( 0.080)	0.071	0.023
215	17.92	0.13	0.094	( 0.079)	0.071	0.023
216	18.00	0.13	0.094	( 0.079)	0.071	0.023
217	18.08	0.13	0.094	( 0.078)	0.071	0.023
218	18.17	0.13	0.094	( 0.078)	0.071	0.023
219	18.25	0.13	0.094	( 0.078)	0.071	0.023
220	18.33	0.13	0.094	( 0.077)	0.071	0.023
221	18.42	0.13	0.094	( 0.077)	0.071	0.023
222	18.50	0.13	0.094	( 0.077)	0.071	0.023
223	18.58	0.10	0.070	( 0.076)	0.054	0.017
224	18.67	0.10	0.070	( 0.076)	0.054	0.017
225	18.75	0.10	0.070	( 0.075)	0.054	0.017
226	18.83	0.07	0.047	( 0.075)	0.036	0.011
227	18.92	0.07	0.047	( 0.075)	0.036	0.011
228	19.00	0.07	0.047	( 0.074)	0.036	0.011
229	19.08	0.10	0.070	( 0.074)	0.054	0.017
230	19.17	0.10	0.070	( 0.074)	0.054	0.017
231	19.25	0.10	0.070	( 0.073)	0.054	0.017
232	19.33	0.13	0.094	( 0.073)	0.071	0.023
233	19.42	0.13	0.094	( 0.073)	0.071	0.023
234	19.50	0.13	0.094	( 0.072)	0.071	0.023
235	19.58	0.10	0.070	( 0.072)	0.054	0.017
236	19.67	0.10	0.070	( 0.072)	0.054	0.017
237	19.75	0.10	0.070	( 0.071)	0.054	0.017
238	19.83	0.07	0.047	( 0.071)	0.036	0.011
239	19.92	0.07	0.047	( 0.071)	0.036	0.011
240	20.00	0.07	0.047	( 0.070)	0.036	0.011
241	20.08	0.10	0.070	( 0.070)	0.054	0.017
242	20.17	0.10	0.070	( 0.070)	0.054	0.017
243	20.25	0.10	0.070	( 0.069)	0.054	0.017
244	20.33	0.10	0.070	( 0.069)	0.054	0.017
245	20.42	0.10	0.070	( 0.069)	0.054	0.017
246	20.50	0.10	0.070	( 0.069)	0.054	0.017
247	20.58	0.10	0.070	( 0.068)	0.054	0.017
248	20.67	0.10	0.070	( 0.068)	0.054	0.017
249	20.75	0.10	0.070	( 0.068)	0.054	0.017
250	20.83	0.07	0.047	( 0.067)	0.036	0.011
251	20.92	0.07	0.047	( 0.067)	0.036	0.011
252	21.00	0.07	0.047	( 0.067)	0.036	0.011
253	21.08	0.10	0.070	( 0.067)	0.054	0.017
254	21.17	0.10	0.070	( 0.066)	0.054	0.017
255	21.25	0.10	0.070	( 0.066)	0.054	0.017

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

256	21.33	0.07	0.047	( 0.066)	0.036	0.011
257	21.42	0.07	0.047	( 0.066)	0.036	0.011
258	21.50	0.07	0.047	( 0.065)	0.036	0.011
259	21.58	0.10	0.070	( 0.065)	0.054	0.017
260	21.67	0.10	0.070	( 0.065)	0.054	0.017
261	21.75	0.10	0.070	( 0.065)	0.054	0.017
262	21.83	0.07	0.047	( 0.064)	0.036	0.011
263	21.92	0.07	0.047	( 0.064)	0.036	0.011
264	22.00	0.07	0.047	( 0.064)	0.036	0.011
265	22.08	0.10	0.070	( 0.064)	0.054	0.017
266	22.17	0.10	0.070	( 0.064)	0.054	0.017
267	22.25	0.10	0.070	( 0.063)	0.054	0.017
268	22.33	0.07	0.047	( 0.063)	0.036	0.011
269	22.42	0.07	0.047	( 0.063)	0.036	0.011
270	22.50	0.07	0.047	( 0.063)	0.036	0.011
271	22.58	0.07	0.047	( 0.063)	0.036	0.011
272	22.67	0.07	0.047	( 0.062)	0.036	0.011
273	22.75	0.07	0.047	( 0.062)	0.036	0.011
274	22.83	0.07	0.047	( 0.062)	0.036	0.011
275	22.92	0.07	0.047	( 0.062)	0.036	0.011
276	23.00	0.07	0.047	( 0.062)	0.036	0.011
277	23.08	0.07	0.047	( 0.062)	0.036	0.011
278	23.17	0.07	0.047	( 0.062)	0.036	0.011
279	23.25	0.07	0.047	( 0.061)	0.036	0.011
280	23.33	0.07	0.047	( 0.061)	0.036	0.011
281	23.42	0.07	0.047	( 0.061)	0.036	0.011
282	23.50	0.07	0.047	( 0.061)	0.036	0.011
283	23.58	0.07	0.047	( 0.061)	0.036	0.011
284	23.67	0.07	0.047	( 0.061)	0.036	0.011
285	23.75	0.07	0.047	( 0.061)	0.036	0.011
286	23.83	0.07	0.047	( 0.061)	0.036	0.011
287	23.92	0.07	0.047	( 0.061)	0.036	0.011
288	24.00	0.07	0.047	( 0.061)	0.036	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 44.3

Flood volume = Effective rainfall 3.69(In)  
times area 59.9(Ac.)/[ (In)/(Ft.) ] = 18.4(Ac.Ft)  
Total soil loss = 2.18(In)  
Total soil loss = 10.879(Ac.Ft)  
Total rainfall = 5.87(In)  
Flood volume = 802312.6 Cubic Feet  
Total soil loss = 473893.2 Cubic Feet

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Peak flow rate of this hydrograph = 40.754(CFS)  
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24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))  
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0003	0.05	Q				
0+10	0.0019	0.24	Q				
0+15	0.0049	0.43	Q				
0+20	0.0086	0.54	Q				
0+25	0.0133	0.68	Q				
0+30	0.0188	0.81	Q				
0+35	0.0248	0.87	Q				
0+40	0.0311	0.91	Q				
0+45	0.0375	0.94	Q				

Keller Crossing – Tract 38163  
ATTACHMENT D – Inflow Hydrographs, Proposed Condition

0+50	0.0443	0.98	Q				
0+55	0.0518	1.09	Q				
1+ 0	0.0601	1.20	Q				
1+ 5	0.0686	1.23	Q				
1+10	0.0766	1.16	Q				
1+15	0.0841	1.09	Q				
1+20	0.0914	1.07	Q				
1+25	0.0987	1.05	Q				
1+30	0.1059	1.05	Q				
1+35	0.1131	1.04	Q				
1+40	0.1202	1.04	Q				
1+45	0.1273	1.03	Q				
1+50	0.1346	1.05	Q				
1+55	0.1425	1.15	Q				
2+ 0	0.1510	1.24	Q				
2+ 5	0.1599	1.28	VQ				
2+10	0.1688	1.30	VQ				
2+15	0.1779	1.32	VQ				
2+20	0.1871	1.33	VQ				
2+25	0.1962	1.34	VQ				
2+30	0.2055	1.34	VQ				
2+35	0.2149	1.37	VQ				
2+40	0.2250	1.47	VQ				
2+45	0.2359	1.57	VQ				
2+50	0.2470	1.61	VQ				
2+55	0.2582	1.64	VQ				
3+ 0	0.2696	1.66	VQ				
3+ 5	0.2811	1.67	VQ				
3+10	0.2927	1.68	VQ				
3+15	0.3042	1.68	VQ				
3+20	0.3159	1.69	VQ				
3+25	0.3275	1.69	VQ				
3+30	0.3392	1.69	VQ				
3+35	0.3509	1.70	VQ				
3+40	0.3626	1.70	VQ				
3+45	0.3743	1.70	VQ				
3+50	0.3862	1.72	VQ				
3+55	0.3987	1.82	VQ				
4+ 0	0.4119	1.92	VQ				
4+ 5	0.4254	1.96	VQ				
4+10	0.4390	1.98	VQ				
4+15	0.4528	2.00	VQ				
4+20	0.4668	2.03	IQ				
4+25	0.4815	2.14	IQ				
4+30	0.4969	2.24	IQ				
4+35	0.5126	2.28	IQ				
4+40	0.5285	2.31	IQ				
4+45	0.5446	2.33	IQ				
4+50	0.5609	2.37	IQ				
4+55	0.5779	2.47	IQ				
5+ 0	0.5956	2.58	IVQ				
5+ 5	0.6134	2.58	IVQ				
5+10	0.6300	2.41	IQ				
5+15	0.6454	2.24	IQ				
5+20	0.6605	2.19	IQ				
5+25	0.6761	2.25	IQ				
5+30	0.6921	2.33	IQ				
5+35	0.7085	2.38	IQ				
5+40	0.7255	2.48	IQ				
5+45	0.7433	2.59	IVQ				
5+50	0.7615	2.63	IVQ				
5+55	0.7797	2.65	IVQ				
6+ 0	0.7981	2.67	IVQ				

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

6+ 5	0.8168	2.71	VQ				
6+10	0.8364	2.84	VQ				
6+15	0.8569	2.98	VQ				
6+20	0.8780	3.06	VQ				
6+25	0.8995	3.13	VQ				
6+30	0.9215	3.19	Q				
6+35	0.9444	3.33	Q				
6+40	0.9705	3.79	VQ				
6+45	0.9997	4.24	VQ				
6+50	1.0304	4.46	VQ				
6+55	1.0620	4.60	VQ				
7+ 0	1.0944	4.71	VQ				
7+ 5	1.1275	4.80	VQ				
7+10	1.1610	4.87	VQ				
7+15	1.1951	4.94	VQ				
7+20	1.2302	5.10	V Q				
7+25	1.2685	5.56	V Q				
7+30	1.3100	6.02	V Q				
7+35	1.3536	6.34	V Q				
7+40	1.4010	6.88	V Q				
7+45	1.4520	7.40	V Q				
7+50	1.5054	7.76	V Q				
7+55	1.5627	8.33	V Q				
8+ 0	1.6238	8.86	V Q				
8+ 5	1.6880	9.33	V Q				
8+10	1.7591	10.32	V Q				
8+15	1.8367	11.27	V Q				
8+20	1.9175	11.73	V Q				
8+25	2.0002	12.02	V Q				
8+30	2.0845	12.23	V Q				
8+35	2.1706	12.50	V Q				
8+40	2.2603	13.03	V Q				
8+45	2.3536	13.55	V Q				
8+50	2.4494	13.91	V Q				
8+55	2.5492	14.49	V Q				
9+ 0	2.6527	15.03	V Q				
9+ 5	2.7594	15.50	V Q				
9+10	2.8730	16.48	V Q				
9+15	2.9931	17.44	V Q				
9+20	3.1170	17.99	V Q				
9+25	3.2456	18.67	V Q				
9+30	3.3783	19.28	V Q				
9+35	3.5141	19.71	V Q				
9+40	3.6541	20.34	V Q				
9+45	3.7982	20.92	V Q				
9+50	3.9450	21.32	V Q				
9+55	4.0961	21.93	V Q				
10+ 0	4.2511	22.50	V Q				
10+ 5	4.4036	22.14	V Q				
10+10	4.5381	19.53	V Q				
10+15	4.6541	16.86	V Q				
10+20	4.7628	15.78	V Q				
10+25	4.8677	15.23	V Q				
10+30	4.9700	14.86	VQ				
10+35	5.0739	15.08	VQ				
10+40	5.1903	16.90	V Q				
10+45	5.3198	18.80	V Q				
10+50	5.4545	19.56	V Q				
10+55	5.5919	19.95	V Q				
11+ 0	5.7312	20.23	V Q				
11+ 5	5.8712	20.34	V Q				
11+10	6.0096	20.09	V Q				
11+15	6.1459	19.80	V Q				

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

11+20	6.2819	19.73			V Q			
11+25	6.4180	19.76			V Q			
11+30	6.5543	19.80			VQ			
11+35	6.6896	19.65			VQ			
11+40	6.8197	18.88			VQ			
11+45	6.9445	18.12			QV			
11+50	7.0679	17.91			QV			
11+55	7.1929	18.15			QV			
12+ 0	7.3199	18.44			QV			
12+ 5	7.4521	19.20			QV			
12+10	7.6041	22.07			VQ			
12+15	7.7759	24.94			V Q			
12+20	7.9567	26.26			V  Q			
12+25	8.1451	27.35			V  Q			
12+30	8.3396	28.24			V   Q			
12+35	8.5391	28.96			V   Q			
12+40	8.7467	30.14			V   Q			
12+45	8.9617	31.22			V   Q			
12+50	9.1813	31.89			V   Q			
12+55	9.4063	32.67			V   Q			
13+ 0	9.6361	33.36			V   Q			
13+ 5	9.8718	34.23			V   Q			
13+10	10.1232	36.50			V   Q			
13+15	10.3900	38.74			V   Q			
13+20	10.6639	39.76			V   Q			
13+25	10.9417	40.34			V   Q			
13+30	11.2224	40.75			V   Q			
13+35	11.4981	40.03			V   Q			
13+40	11.7450	35.85			V   Q			
13+45	11.9626	31.59			V   Q			
13+50	12.1683	29.87			Q   V			
13+55	12.3678	28.97			Q   V			
14+ 0	12.5631	28.36			Q   V			
14+ 5	12.7581	28.31			Q   V			
14+10	12.9620	29.61			Q   V			
14+15	13.1756	31.01			Q   V			
14+20	13.3920	31.42			Q   V			
14+25	13.6071	31.24			Q   V			
14+30	13.8205	30.98			Q   V			
14+35	14.0334	30.91			Q   V			
14+40	14.2462	30.91			Q   V			
14+45	14.4590	30.89			Q   V			
14+50	14.6711	30.81			Q   V			
14+55	14.8810	30.47			Q   V			
15+ 0	15.0885	30.12			Q   V			
15+ 5	15.2944	29.91			Q   V			
15+10	15.4973	29.45			Q   V			
15+15	15.6972	29.03			Q   V			
15+20	15.8953	28.76			Q   V			
15+25	16.0899	28.25			Q   V			
15+30	16.2812	27.78			Q   V			
15+35	16.4684	27.19			Q   V			
15+40	16.6438	25.46			Q   V			
15+45	16.8076	23.77			Q   V			
15+50	16.9662	23.04			Q   V			
15+55	17.1221	22.63			Q   V			
16+ 0	17.2761	22.36			Q   V			
16+ 5	17.4195	20.82			Q   V			
16+10	17.5225	14.95		Q				V
16+15	17.5850	9.08		Q				V
16+20	17.6301	6.55		Q				V
16+25	17.6656	5.15		Q				V
16+30	17.6943	4.17		Q				V



**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

16+35	17.7180	3.44	Q				V
16+40	17.7374	2.82	Q				V
16+45	17.7535	2.34	Q				V
16+50	17.7670	1.96	Q				V
16+55	17.7787	1.70	Q				V
17+ 0	17.7890	1.50	Q				V
17+ 5	17.7988	1.41	Q				V
17+10	17.8097	1.59	Q				V
17+15	17.8220	1.78	Q				V
17+20	17.8347	1.84	Q				V
17+25	17.8480	1.93	Q				V
17+30	17.8617	1.99	Q				V
17+35	17.8758	2.05	Q				V
17+40	17.8902	2.09	Q				V
17+45	17.9049	2.13	Q				V
17+50	17.9194	2.11	Q				V
17+55	17.9324	1.88	Q				V
18+ 0	17.9437	1.64	Q				V
18+ 5	17.9544	1.55	Q				V
18+10	17.9647	1.50	Q				V
18+15	17.9748	1.47	Q				V
18+20	17.9848	1.44	Q				V
18+25	17.9946	1.42	Q				V
18+30	18.0043	1.41	Q				V
18+35	18.0137	1.37	Q				V
18+40	18.0225	1.27	Q				V
18+45	18.0305	1.16	Q				V
18+50	18.0380	1.09	Q				V
18+55	18.0447	0.97	Q				V
19+ 0	18.0506	0.85	Q				V
19+ 5	18.0563	0.82	Q				V
19+10	18.0624	0.89	Q				V
19+15	18.0690	0.96	Q				V
19+20	18.0759	1.01	Q				V
19+25	18.0836	1.12	Q				V
19+30	18.0920	1.22	Q				V
19+35	18.1005	1.24	Q				V
19+40	18.1086	1.17	Q				V
19+45	18.1161	1.09	Q				V
19+50	18.1232	1.04	Q				V
19+55	18.1296	0.93	Q				V
20+ 0	18.1353	0.82	Q				V
20+ 5	18.1408	0.80	Q				V
20+10	18.1469	0.87	Q				V
20+15	18.1534	0.95	Q				V
20+20	18.1602	0.98	Q				V
20+25	18.1670	0.99	Q				V
20+30	18.1739	1.00	Q				V
20+35	18.1808	1.01	Q				V
20+40	18.1878	1.01	Q				V
20+45	18.1947	1.01	Q				V
20+50	18.2016	0.99	Q				V
20+55	18.2077	0.89	Q				V
21+ 0	18.2132	0.80	Q				V
21+ 5	18.2186	0.78	Q				V
21+10	18.2245	0.86	Q				V
21+15	18.2310	0.94	Q				V
21+20	18.2375	0.95	Q				V
21+25	18.2435	0.87	Q				V
21+30	18.2489	0.78	Q				V
21+35	18.2541	0.77	Q				V
21+40	18.2600	0.85	Q				V
21+45	18.2664	0.93	Q				V

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

21+50	18.2728	0.94	Q				V
21+55	18.2788	0.86	Q				V
22+ 0	18.2841	0.77	Q				V
22+ 5	18.2893	0.76	Q				V
22+10	18.2951	0.84	Q				V
22+15	18.3015	0.93	Q				V
22+20	18.3080	0.94	Q				V
22+25	18.3139	0.86	Q				V
22+30	18.3192	0.77	Q				V
22+35	18.3243	0.74	Q				V
22+40	18.3293	0.72	Q				V
22+45	18.3342	0.71	Q				V
22+50	18.3391	0.71	Q				V
22+55	18.3439	0.70	Q				V
23+ 0	18.3487	0.69	Q				V
23+ 5	18.3534	0.69	Q				V
23+10	18.3582	0.69	Q				V
23+15	18.3629	0.69	Q				V
23+20	18.3676	0.69	Q				V
23+25	18.3723	0.68	Q				V
23+30	18.3770	0.68	Q				V
23+35	18.3817	0.68	Q				V
23+40	18.3864	0.68	Q				V
23+45	18.3911	0.68	Q				V
23+50	18.3958	0.68	Q				V
23+55	18.4005	0.68	Q				V
24+ 0	18.4051	0.68	Q				V
24+ 5	18.4095	0.64	Q				V
24+10	18.4126	0.44	Q				V
24+15	18.4143	0.25	Q				V
24+20	18.4154	0.17	Q				V
24+25	18.4163	0.12	Q				V
24+30	18.4169	0.09	Q				V
24+35	18.4174	0.07	Q				V
24+40	18.4177	0.05	Q				V
24+45	18.4180	0.04	Q				V
24+50	18.4182	0.03	Q				V
24+55	18.4183	0.02	Q				V
25+ 0	18.4184	0.01	Q				V
25+ 5	18.4185	0.01	Q				V
25+10	18.4185	0.01	Q				V
25+15	18.4186	0.00	Q				V

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Keller Crossing – Tract 38163  
ATTACHMENT D – Inflow Hydrographs, Proposed Condition

## Drainage Area C

Keller Crossing					
Manning "n" Value Worksheet					
Drainage Area C - 91.5 Ac (Proposed)					
[1]	[2]	[3]	[4]	[5]	[7]
Subarea	Area in (Ac)	Land Use (Plate D-5.6)	"n" Value	Decimal portion of Area [2] / SUM[2]	Average "n" Value * [5] [4]
		Natural	0.035	0.00	0.000
	5.89	Basin	0.035	0.06	0.002
		Res 1/2 Ac	0.015	0.00	0.000
		Res 1/4 Ac	0.015	0.00	0.000
	72.81	Res < 1/4 Ac	0.015	0.80	0.012
		Apartment	0.015	0.00	0.000
		Mobil Home	0.015	0.00	0.000
		Hospital	0.02	0.00	0.000
	12.8	Commercial	0.015	0.14	0.002
Sum =	91.5			1.00	<b>0.016</b>

Keller Crossing – Tract 38163  
ATTACHMENT D – Inflow Hydrographs, Proposed Condition

<b>Runoff Index (RI) Worksheet</b>							
<b>Drainage Area C - 91.5 Ac (Proposed)</b>							
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Subarea	Area in (Ac)	Soil Group	Cover Type	RI Number (Plate E6-1)	Land Use	Decimal portion of Area [2] / SUM[2]	Average RI Value [5] * [7]
<b>Basin</b>		B	Landscape	56	Basin	0.00	0.0
	5.89	C	Landscape	69	Basin	1.00	69.0
		D	Landscape	75	Basin	0.00	0.0
<i>Sum =</i>	<i>5.89</i>					1.00	<b>69.0</b>
<b>Res 1/4 Ac</b>	20	B	Landscape	56	Residential	0.27	15.4
	22.81	C	Landscape	69	Residential	0.31	21.6
	30	D	Landscape	75	Residential	0.41	30.9
<i>Sum =</i>	<i>72.81</i>					1.00	<b>67.9</b>
<b>Commercial</b>		B	Landscape	56	Commercial	0.00	0.0
	5.8	C	Landscape	69	Commercial	0.45	31.3
	7	D	Landscape	75	Commercial	0.55	41.0
<i>Sum =</i>	<i>12.8</i>					1.00	<b>72.3</b>

Keller Crossing – Tract 38163  
ATTACHMENT D – Inflow Hydrographs, Proposed Condition

<b>Keller Crossing</b>						
<b>Soil Low Loss Rate Worksheet</b>						
<b>Drainage Area C - 91.5 Ac (Proposed)</b>						
[1]	[2]	[3]	[4]	[5]	[6]	[7]
Subarea	Area in (Ac)	Land Use (Plate D-5.6)	% Impervious (Plate D-5.6)	Soil Low Loss Rate 0.9-(0.8)* [4]	Decimal portion of Area [2] / SUM[2]	Average Low Loss Rate [5] * [6]
		Natural	0	0.90	0.00	0.00
	5.89	Basin	5	0.86	0.06	0.06
		Res 1/2 Ac	40	0.58	0.00	0.00
		Res 1/4 Ac	50	0.50	0.00	0.00
	72.81	Res < 1/4 Ac	65	0.38	0.80	0.30
		Res < 1/4 Ac	70	0.34	0.00	0.00
		Mobil Home	75	0.30	0.00	0.00
		Hospital	75	0.30	0.00	0.00
	12.8	Commercial	90	0.18	0.14	0.03
Sum =	91.5				1.00	<b>0.38</b>

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx2prh12.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 2-year 1-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 1 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 2.00  
 Area Averaged 2-Year Rainfall = 0.528 (In)  
 Area Averaged 100-Year Rainfall = 1.590 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 0.528(In)  
 Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 0.528(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

U n i t H y d r o g r a p h  
 VALLEY S-Curve

-----  
 Unit Hydrograph Data  
 -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	117.475	22.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)		Effective	
			Max	Low		
1	0.08	4.40	0.279	( 0.245)	0.106	0.173
2	0.17	4.50	0.285	( 0.245)	0.108	0.177
3	0.25	5.40	0.342	( 0.245)	0.130	0.212
4	0.33	5.40	0.342	( 0.245)	0.130	0.212
5	0.42	5.70	0.361	( 0.245)	0.137	0.224
6	0.50	6.40	0.405	( 0.245)	0.154	0.251
7	0.58	7.90	0.500	( 0.245)	0.190	0.310
8	0.67	9.10	0.576	( 0.245)	0.219	0.357
9	0.75	12.80	0.810	0.245 ( 0.308)		0.566
10	0.83	25.60	1.621	0.245 ( 0.616)		1.376
11	0.92	7.90	0.500	( 0.245)	0.190	0.310
12	1.00	4.90	0.310	( 0.245)	0.118	0.192

(Loss Rate Not Used)

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

Sum = 100.0 Sum = 4.4  
 Flood volume = Effective rainfall 0.36(In)  
 times area 91.5(Ac.)/[ (In)/(Ft.) ] = 2.8(Ac.Ft)  
 Total soil loss = 0.16(In)  
 Total soil loss = 1.252(Ac.Ft)  
 Total rainfall = 0.53(In)  
 Flood volume = 120669.0 Cubic Feet  
 Total soil loss = 54558.1 Cubic Feet

-----  
 Peak flow rate of this hydrograph = 79.811(CFS)  
 -----

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 1 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h  
 -----

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0268	3.90	VQ				
0+10	0.1078	11.76	V Q				
0+15	0.2104	14.89	V Q				
0+20	0.3310	17.51	V Q				
0+25	0.4604	18.79	V Q				
0+30	0.6014	20.47	V Q				
0+35	0.7636	23.56	Q				
0+40	0.9548	27.75	Q				
0+45	1.1997	35.56	Q				
0+50	1.6423	64.27	V	Q			
0+55	2.1920	79.81	V	Q			
1+ 0	2.4728	40.78	Q	V			
1+ 5	2.6330	23.26	Q	V			
1+10	2.7026	10.11	Q	V			
1+15	2.7403	5.47	Q	V			
1+20	2.7626	3.23	Q	V			
1+25	2.7682	0.82	Q	V			
1+30	2.7702	0.29	Q	V			



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx2prh32.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 2-year 3-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 3 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 2.00  
 Area Averaged 2-Year Rainfall = 0.911 (In)  
 Area Averaged 100-Year Rainfall = 2.330 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 0.911(In)  
 Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 0.911(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	22.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	1.30	( 0.245) 0.054	0.088
2	0.17	1.30	( 0.245) 0.054	0.088
3	0.25	1.10	( 0.245) 0.046	0.075
4	0.33	1.50	( 0.245) 0.062	0.102
5	0.42	1.50	( 0.245) 0.062	0.102
6	0.50	1.80	( 0.245) 0.075	0.122
7	0.58	1.50	( 0.245) 0.062	0.102
8	0.67	1.80	( 0.245) 0.075	0.122
9	0.75	1.80	( 0.245) 0.075	0.122
10	0.83	1.50	( 0.245) 0.062	0.102
11	0.92	1.60	( 0.245) 0.066	0.108
12	1.00	1.80	( 0.245) 0.075	0.122
13	1.08	2.20	( 0.245) 0.091	0.149
14	1.17	2.20	( 0.245) 0.091	0.149

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

15	1.25	2.20	0.240	( 0.245)	0.091	0.149
16	1.33	2.00	0.219	( 0.245)	0.083	0.136
17	1.42	2.60	0.284	( 0.245)	0.108	0.176
18	1.50	2.70	0.295	( 0.245)	0.112	0.183
19	1.58	2.40	0.262	( 0.245)	0.100	0.163
20	1.67	2.70	0.295	( 0.245)	0.112	0.183
21	1.75	3.30	0.361	( 0.245)	0.137	0.224
22	1.83	3.10	0.339	( 0.245)	0.129	0.210
23	1.92	2.90	0.317	( 0.245)	0.120	0.196
24	2.00	3.00	0.328	( 0.245)	0.125	0.203
25	2.08	3.10	0.339	( 0.245)	0.129	0.210
26	2.17	4.20	0.459	( 0.245)	0.174	0.285
27	2.25	5.00	0.546	( 0.245)	0.208	0.339
28	2.33	3.50	0.382	( 0.245)	0.145	0.237
29	2.42	6.80	0.743	0.245 ( 0.282)		0.498
30	2.50	7.30	0.798	0.245 ( 0.303)		0.553
31	2.58	8.20	0.896	0.245 ( 0.341)		0.651
32	2.67	5.90	0.645	0.245 ( 0.245)		0.400
33	2.75	2.00	0.219	( 0.245)	0.083	0.136
34	2.83	1.80	0.197	( 0.245)	0.075	0.122
35	2.92	1.80	0.197	( 0.245)	0.075	0.122
36	3.00	0.60	0.066	( 0.245)	0.025	0.041

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.0

Flood volume = Effective rainfall 0.58(In)  
times area 91.5(Ac.) / [(In) / (Ft.)] = 4.4 (Ac.Ft)

Total soil loss = 0.33(In)  
Total soil loss = 2.516(Ac.Ft)

Total rainfall = 0.91(In)  
Flood volume = 192857.0 Cubic Feet  
Total soil loss = 109605.9 Cubic Feet

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Peak flow rate of this hydrograph = 49.895 (CFS)

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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))

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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0137	1.99	VQ				
0+10	0.0547	5.95	V Q				
0+15	0.1011	6.75	V Q				
0+20	0.1511	7.25	V Q				
0+25	0.2101	8.58	V Q				
0+30	0.2753	9.46	V Q				
0+35	0.3453	10.16	V Q				
0+40	0.4143	10.02	V Q				
0+45	0.4888	10.83	V Q				
0+50	0.5619	10.61	V Q				
0+55	0.6303	9.94	V Q				
1+ 0	0.7016	10.35	V Q				
1+ 5	0.7812	11.55	V Q				
1+10	0.8703	12.94	V Q				
1+15	0.9622	13.34	V Q				
1+20	1.0532	13.21	VQ				
1+25	1.1471	13.64	Q				
1+30	1.2541	15.53	VQ				
1+35	1.3632	15.84	Q				
1+40	1.4710	15.66	QV				

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

1+45	1.5907	17.38				QV				
1+50	1.7224	19.12				Q				
1+55	1.8521	18.84				QV				
2+ 0	1.9794	18.48				Q	V			
2+ 5	2.1091	18.83				Q	V			
2+10	2.2529	20.88				Q	V			
2+15	2.4290	25.58					QV			
2+20	2.6127	26.67					Q	V		
2+25	2.8131	29.11					Q	V		
2+30	3.0983	41.40						V		Q
2+35	3.4363	49.09							V	Q
2+40	3.7800	49.90							V	Q
2+45	4.0201	34.87						Q		V
2+50	4.1618	20.58				Q				V
2+55	4.2723	16.04				Q				V
3+ 0	4.3550	12.00			Q					V
3+ 5	4.3976	6.19		Q						V
3+10	4.4143	2.43		Q						V
3+15	4.4215	1.05		Q						V
3+20	4.4252	0.54		Q						V
3+25	4.4270	0.26		Q						V
3+30	4.4274	0.06		Q						V

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx2prh62.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 2-year 6-hour storm

-----  
 Drainage Area = 91.50(Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50(Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00(Ft.)  
 Length along longest watercourse measured to centroid = 1560.00(Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70(Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 6 Hour(s)  
 User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 2.00  
 Area Averaged 2-Year Rainfall = 1.290(In)  
 Area Averaged 100-Year Rainfall = 3.170(In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 1.290(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 1.290(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.077	( 0.245)   0.029	0.048
2	0.17	0.093	( 0.245)   0.035	0.058
3	0.25	0.093	( 0.245)   0.035	0.058
4	0.33	0.093	( 0.245)   0.035	0.058
5	0.42	0.093	( 0.245)   0.035	0.058
6	0.50	0.108	( 0.245)   0.041	0.067
7	0.58	0.108	( 0.245)   0.041	0.067
8	0.67	0.108	( 0.245)   0.041	0.067
9	0.75	0.108	( 0.245)   0.041	0.067
10	0.83	0.108	( 0.245)   0.041	0.067
11	0.92	0.108	( 0.245)   0.041	0.067
12	1.00	0.124	( 0.245)   0.047	0.077
13	1.08	0.124	( 0.245)   0.047	0.077
14	1.17	0.124	( 0.245)   0.047	0.077

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

15	1.25	0.80	0.124	( 0.245)	0.047	0.077
16	1.33	0.80	0.124	( 0.245)	0.047	0.077
17	1.42	0.80	0.124	( 0.245)	0.047	0.077
18	1.50	0.80	0.124	( 0.245)	0.047	0.077
19	1.58	0.80	0.124	( 0.245)	0.047	0.077
20	1.67	0.80	0.124	( 0.245)	0.047	0.077
21	1.75	0.80	0.124	( 0.245)	0.047	0.077
22	1.83	0.80	0.124	( 0.245)	0.047	0.077
23	1.92	0.80	0.124	( 0.245)	0.047	0.077
24	2.00	0.90	0.139	( 0.245)	0.053	0.086
25	2.08	0.80	0.124	( 0.245)	0.047	0.077
26	2.17	0.90	0.139	( 0.245)	0.053	0.086
27	2.25	0.90	0.139	( 0.245)	0.053	0.086
28	2.33	0.90	0.139	( 0.245)	0.053	0.086
29	2.42	0.90	0.139	( 0.245)	0.053	0.086
30	2.50	0.90	0.139	( 0.245)	0.053	0.086
31	2.58	0.90	0.139	( 0.245)	0.053	0.086
32	2.67	0.90	0.139	( 0.245)	0.053	0.086
33	2.75	1.00	0.155	( 0.245)	0.059	0.096
34	2.83	1.00	0.155	( 0.245)	0.059	0.096
35	2.92	1.00	0.155	( 0.245)	0.059	0.096
36	3.00	1.00	0.155	( 0.245)	0.059	0.096
37	3.08	1.00	0.155	( 0.245)	0.059	0.096
38	3.17	1.10	0.170	( 0.245)	0.065	0.106
39	3.25	1.10	0.170	( 0.245)	0.065	0.106
40	3.33	1.10	0.170	( 0.245)	0.065	0.106
41	3.42	1.20	0.186	( 0.245)	0.071	0.115
42	3.50	1.30	0.201	( 0.245)	0.076	0.125
43	3.58	1.40	0.217	( 0.245)	0.082	0.134
44	3.67	1.40	0.217	( 0.245)	0.082	0.134
45	3.75	1.50	0.232	( 0.245)	0.088	0.144
46	3.83	1.50	0.232	( 0.245)	0.088	0.144
47	3.92	1.60	0.248	( 0.245)	0.094	0.154
48	4.00	1.60	0.248	( 0.245)	0.094	0.154
49	4.08	1.70	0.263	( 0.245)	0.100	0.163
50	4.17	1.80	0.279	( 0.245)	0.106	0.173
51	4.25	1.90	0.294	( 0.245)	0.112	0.182
52	4.33	2.00	0.310	( 0.245)	0.118	0.192
53	4.42	2.10	0.325	( 0.245)	0.123	0.201
54	4.50	2.10	0.325	( 0.245)	0.123	0.201
55	4.58	2.20	0.340	( 0.245)	0.129	0.211
56	4.67	2.30	0.356	( 0.245)	0.135	0.221
57	4.75	2.40	0.371	( 0.245)	0.141	0.230
58	4.83	2.40	0.371	( 0.245)	0.141	0.230
59	4.92	2.50	0.387	( 0.245)	0.147	0.240
60	5.00	2.60	0.402	( 0.245)	0.153	0.249
61	5.08	3.10	0.480	( 0.245)	0.182	0.297
62	5.17	3.60	0.557	( 0.245)	0.212	0.345
63	5.25	3.90	0.604	( 0.245)	0.229	0.374
64	5.33	4.20	0.650	0.245	( 0.247)	0.405
65	5.42	4.70	0.727	0.245	( 0.276)	0.483
66	5.50	5.60	0.867	0.245	( 0.329)	0.622
67	5.58	1.90	0.294	( 0.245)	0.112	0.182
68	5.67	0.90	0.139	( 0.245)	0.053	0.086
69	5.75	0.60	0.093	( 0.245)	0.035	0.058
70	5.83	0.50	0.077	( 0.245)	0.029	0.048
71	5.92	0.30	0.046	( 0.245)	0.018	0.029
72	6.00	0.20	0.031	( 0.245)	0.012	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.7

Flood volume = Effective rainfall 0.81 (In)

times area 91.5 (Ac.) / [(In) / (Ft.)] = 6.2 (Ac.Ft)

Total soil loss = 0.48 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Total soil loss = 3.661(Ac.Ft)  
 Total rainfall = 1.29(In)  
 Flood volume = 268855.7 Cubic Feet  
 Total soil loss = 159476.6 Cubic Feet

-----  
 Peak flow rate of this hydrograph = 44.972(CFS)  
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6 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

-----  
 Hydrograph in 5 Minute intervals ((CFS))  
 -----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0075	1.08	Q				
0+10	0.0313	3.46	V Q				
0+15	0.0622	4.49	V Q				
0+20	0.0958	4.88	V Q				
0+25	0.1309	5.09	V Q				
0+30	0.1682	5.42	V Q				
0+35	0.2092	5.95	V Q				
0+40	0.2510	6.08	V Q				
0+45	0.2933	6.13	V Q				
0+50	0.3357	6.16	V Q				
0+55	0.3783	6.18	V Q				
1+ 0	0.4225	6.41	V Q				
1+ 5	0.4696	6.84	V Q				
1+10	0.5176	6.96	V Q				
1+15	0.5659	7.02	V Q				
1+20	0.6145	7.05	V Q				
1+25	0.6632	7.07	VQ				
1+30	0.7119	7.08	VQ				
1+35	0.7607	7.08	VQ				
1+40	0.8095	7.08	Q				
1+45	0.8582	7.08	Q				
1+50	0.9070	7.08	Q				
1+55	0.9558	7.08	QV				
2+ 0	1.0061	7.30	QV				
2+ 5	1.0578	7.51	Q				
2+10	1.1089	7.42	Q V				
2+15	1.1625	7.78	QV				
2+20	1.2168	7.88	QV				
2+25	1.2713	7.92	Q V				
2+30	1.3261	7.95	Q V				
2+35	1.3809	7.95	Q V				
2+40	1.4357	7.97	Q V				
2+45	1.4921	8.18	Q V				
2+50	1.5514	8.62	Q V				
2+55	1.6116	8.74	Q V				
3+ 0	1.6721	8.79	Q V				
3+ 5	1.7329	8.82	Q  V				
3+10	1.7952	9.05	Q  V				
3+15	1.8607	9.50	Q   V				
3+20	1.9269	9.62	Q   V				
3+25	1.9950	9.89	Q   V				
3+30	2.0678	10.57	Q   V				
3+35	2.1460	11.36	Q   V				
3+40	2.2285	11.98	Q   V				
3+45	2.3139	12.40	Q   V				
3+50	2.4030	12.93	Q V				
3+55	2.4948	13.33	Q V				



## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

4+ 0	2.5902	13.85		Q	V			
4+ 5	2.6882	14.23		Q	V			
4+10	2.7912	14.95		Q	V			
4+15	2.8997	15.76		Q	V			
4+20	3.0141	16.61		Q	V			
4+25	3.1344	17.47		Q	V			
4+30	3.2593	18.13		Q	V			
4+35	3.3872	18.58		Q	V			
4+40	3.5205	19.35		Q	V			
4+45	3.6594	20.18		Q	V			
4+50	3.8028	20.81		Q	V			
4+55	3.9491	21.25		Q	V			
5+ 0	4.1007	22.00		Q	V			
5+ 5	4.2639	23.70		Q	V			
5+10	4.4508	27.15		Q	V			
5+15	4.6619	30.65		Q	V			
5+20	4.8932	33.57		Q	V			
5+25	5.1517	37.54		Q	V			
5+30	5.4614	44.97		Q	V			
5+35	5.7556	42.71		Q	V			
5+40	5.9150	23.16		Q	V			
5+45	6.0103	13.83		Q	V			
5+50	6.0741	9.26		Q	V			
5+55	6.1186	6.47		Q	V			
6+ 0	6.1475	4.19		Q	V			
6+ 5	6.1620	2.11		Q	V			
6+10	6.1675	0.79		Q	V			
6+15	6.1701	0.37		Q	V			
6+20	6.1713	0.19		Q	V			
6+25	6.1719	0.08		Q	V			
6+30	6.1721	0.03		Q	V			

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx2prh242.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 2-year 24-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 24 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 2.00  
 Area Averaged 2-Year Rainfall = 2.250 (In)  
 Area Averaged 100-Year Rainfall = 5.870 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 2.250(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 2.250(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.018	( 0.434)   0.007	0.011
2	0.17	0.018	( 0.432)   0.007	0.011
3	0.25	0.018	( 0.430)   0.007	0.011
4	0.33	0.027	( 0.429)   0.010	0.017
5	0.42	0.027	( 0.427)   0.010	0.017
6	0.50	0.027	( 0.425)   0.010	0.017
7	0.58	0.027	( 0.424)   0.010	0.017
8	0.67	0.027	( 0.422)   0.010	0.017
9	0.75	0.027	( 0.420)   0.010	0.017
10	0.83	0.036	( 0.419)   0.014	0.022
11	0.92	0.036	( 0.417)   0.014	0.022
12	1.00	0.036	( 0.415)   0.014	0.022
13	1.08	0.027	( 0.414)   0.010	0.017
14	1.17	0.027	( 0.412)   0.010	0.017

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	0.10	0.027	( 0.410)	0.010	0.017
16	1.33	0.10	0.027	( 0.409)	0.010	0.017
17	1.42	0.10	0.027	( 0.407)	0.010	0.017
18	1.50	0.10	0.027	( 0.406)	0.010	0.017
19	1.58	0.10	0.027	( 0.404)	0.010	0.017
20	1.67	0.10	0.027	( 0.402)	0.010	0.017
21	1.75	0.10	0.027	( 0.401)	0.010	0.017
22	1.83	0.13	0.036	( 0.399)	0.014	0.022
23	1.92	0.13	0.036	( 0.397)	0.014	0.022
24	2.00	0.13	0.036	( 0.396)	0.014	0.022
25	2.08	0.13	0.036	( 0.394)	0.014	0.022
26	2.17	0.13	0.036	( 0.393)	0.014	0.022
27	2.25	0.13	0.036	( 0.391)	0.014	0.022
28	2.33	0.13	0.036	( 0.389)	0.014	0.022
29	2.42	0.13	0.036	( 0.388)	0.014	0.022
30	2.50	0.13	0.036	( 0.386)	0.014	0.022
31	2.58	0.17	0.045	( 0.385)	0.017	0.028
32	2.67	0.17	0.045	( 0.383)	0.017	0.028
33	2.75	0.17	0.045	( 0.382)	0.017	0.028
34	2.83	0.17	0.045	( 0.380)	0.017	0.028
35	2.92	0.17	0.045	( 0.378)	0.017	0.028
36	3.00	0.17	0.045	( 0.377)	0.017	0.028
37	3.08	0.17	0.045	( 0.375)	0.017	0.028
38	3.17	0.17	0.045	( 0.374)	0.017	0.028
39	3.25	0.17	0.045	( 0.372)	0.017	0.028
40	3.33	0.17	0.045	( 0.371)	0.017	0.028
41	3.42	0.17	0.045	( 0.369)	0.017	0.028
42	3.50	0.17	0.045	( 0.368)	0.017	0.028
43	3.58	0.17	0.045	( 0.366)	0.017	0.028
44	3.67	0.17	0.045	( 0.364)	0.017	0.028
45	3.75	0.17	0.045	( 0.363)	0.017	0.028
46	3.83	0.20	0.054	( 0.361)	0.021	0.033
47	3.92	0.20	0.054	( 0.360)	0.021	0.033
48	4.00	0.20	0.054	( 0.358)	0.021	0.033
49	4.08	0.20	0.054	( 0.357)	0.021	0.033
50	4.17	0.20	0.054	( 0.355)	0.021	0.033
51	4.25	0.20	0.054	( 0.354)	0.021	0.033
52	4.33	0.23	0.063	( 0.352)	0.024	0.039
53	4.42	0.23	0.063	( 0.351)	0.024	0.039
54	4.50	0.23	0.063	( 0.349)	0.024	0.039
55	4.58	0.23	0.063	( 0.348)	0.024	0.039
56	4.67	0.23	0.063	( 0.346)	0.024	0.039
57	4.75	0.23	0.063	( 0.345)	0.024	0.039
58	4.83	0.27	0.072	( 0.343)	0.027	0.045
59	4.92	0.27	0.072	( 0.342)	0.027	0.045
60	5.00	0.27	0.072	( 0.340)	0.027	0.045
61	5.08	0.20	0.054	( 0.339)	0.021	0.033
62	5.17	0.20	0.054	( 0.337)	0.021	0.033
63	5.25	0.20	0.054	( 0.336)	0.021	0.033
64	5.33	0.23	0.063	( 0.334)	0.024	0.039
65	5.42	0.23	0.063	( 0.333)	0.024	0.039
66	5.50	0.23	0.063	( 0.332)	0.024	0.039
67	5.58	0.27	0.072	( 0.330)	0.027	0.045
68	5.67	0.27	0.072	( 0.329)	0.027	0.045
69	5.75	0.27	0.072	( 0.327)	0.027	0.045
70	5.83	0.27	0.072	( 0.326)	0.027	0.045
71	5.92	0.27	0.072	( 0.324)	0.027	0.045
72	6.00	0.27	0.072	( 0.323)	0.027	0.045
73	6.08	0.30	0.081	( 0.321)	0.031	0.050
74	6.17	0.30	0.081	( 0.320)	0.031	0.050
75	6.25	0.30	0.081	( 0.319)	0.031	0.050
76	6.33	0.30	0.081	( 0.317)	0.031	0.050
77	6.42	0.30	0.081	( 0.316)	0.031	0.050

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

78	6.50	0.30	0.081	( 0.314)	0.031	0.050
79	6.58	0.33	0.090	( 0.313)	0.034	0.056
80	6.67	0.33	0.090	( 0.312)	0.034	0.056
81	6.75	0.33	0.090	( 0.310)	0.034	0.056
82	6.83	0.33	0.090	( 0.309)	0.034	0.056
83	6.92	0.33	0.090	( 0.307)	0.034	0.056
84	7.00	0.33	0.090	( 0.306)	0.034	0.056
85	7.08	0.33	0.090	( 0.305)	0.034	0.056
86	7.17	0.33	0.090	( 0.303)	0.034	0.056
87	7.25	0.33	0.090	( 0.302)	0.034	0.056
88	7.33	0.37	0.099	( 0.300)	0.038	0.061
89	7.42	0.37	0.099	( 0.299)	0.038	0.061
90	7.50	0.37	0.099	( 0.298)	0.038	0.061
91	7.58	0.40	0.108	( 0.296)	0.041	0.067
92	7.67	0.40	0.108	( 0.295)	0.041	0.067
93	7.75	0.40	0.108	( 0.294)	0.041	0.067
94	7.83	0.43	0.117	( 0.292)	0.044	0.073
95	7.92	0.43	0.117	( 0.291)	0.044	0.073
96	8.00	0.43	0.117	( 0.289)	0.044	0.073
97	8.08	0.50	0.135	( 0.288)	0.051	0.084
98	8.17	0.50	0.135	( 0.287)	0.051	0.084
99	8.25	0.50	0.135	( 0.285)	0.051	0.084
100	8.33	0.50	0.135	( 0.284)	0.051	0.084
101	8.42	0.50	0.135	( 0.283)	0.051	0.084
102	8.50	0.50	0.135	( 0.281)	0.051	0.084
103	8.58	0.53	0.144	( 0.280)	0.055	0.089
104	8.67	0.53	0.144	( 0.279)	0.055	0.089
105	8.75	0.53	0.144	( 0.278)	0.055	0.089
106	8.83	0.57	0.153	( 0.276)	0.058	0.095
107	8.92	0.57	0.153	( 0.275)	0.058	0.095
108	9.00	0.57	0.153	( 0.274)	0.058	0.095
109	9.08	0.63	0.171	( 0.272)	0.065	0.106
110	9.17	0.63	0.171	( 0.271)	0.065	0.106
111	9.25	0.63	0.171	( 0.270)	0.065	0.106
112	9.33	0.67	0.180	( 0.268)	0.068	0.112
113	9.42	0.67	0.180	( 0.267)	0.068	0.112
114	9.50	0.67	0.180	( 0.266)	0.068	0.112
115	9.58	0.70	0.189	( 0.265)	0.072	0.117
116	9.67	0.70	0.189	( 0.263)	0.072	0.117
117	9.75	0.70	0.189	( 0.262)	0.072	0.117
118	9.83	0.73	0.198	( 0.261)	0.075	0.123
119	9.92	0.73	0.198	( 0.260)	0.075	0.123
120	10.00	0.73	0.198	( 0.258)	0.075	0.123
121	10.08	0.50	0.135	( 0.257)	0.051	0.084
122	10.17	0.50	0.135	( 0.256)	0.051	0.084
123	10.25	0.50	0.135	( 0.255)	0.051	0.084
124	10.33	0.50	0.135	( 0.253)	0.051	0.084
125	10.42	0.50	0.135	( 0.252)	0.051	0.084
126	10.50	0.50	0.135	( 0.251)	0.051	0.084
127	10.58	0.67	0.180	( 0.250)	0.068	0.112
128	10.67	0.67	0.180	( 0.248)	0.068	0.112
129	10.75	0.67	0.180	( 0.247)	0.068	0.112
130	10.83	0.67	0.180	( 0.246)	0.068	0.112
131	10.92	0.67	0.180	( 0.245)	0.068	0.112
132	11.00	0.67	0.180	( 0.244)	0.068	0.112
133	11.08	0.63	0.171	( 0.242)	0.065	0.106
134	11.17	0.63	0.171	( 0.241)	0.065	0.106
135	11.25	0.63	0.171	( 0.240)	0.065	0.106
136	11.33	0.63	0.171	( 0.239)	0.065	0.106
137	11.42	0.63	0.171	( 0.238)	0.065	0.106
138	11.50	0.63	0.171	( 0.236)	0.065	0.106
139	11.58	0.57	0.153	( 0.235)	0.058	0.095
140	11.67	0.57	0.153	( 0.234)	0.058	0.095

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

141	11.75	0.57	0.153	( 0.233)	0.058	0.095
142	11.83	0.60	0.162	( 0.232)	0.062	0.100
143	11.92	0.60	0.162	( 0.231)	0.062	0.100
144	12.00	0.60	0.162	( 0.229)	0.062	0.100
145	12.08	0.83	0.225	( 0.228)	0.085	0.139
146	12.17	0.83	0.225	( 0.227)	0.085	0.139
147	12.25	0.83	0.225	( 0.226)	0.085	0.139
148	12.33	0.87	0.234	( 0.225)	0.089	0.145
149	12.42	0.87	0.234	( 0.224)	0.089	0.145
150	12.50	0.87	0.234	( 0.223)	0.089	0.145
151	12.58	0.93	0.252	( 0.222)	0.096	0.156
152	12.67	0.93	0.252	( 0.220)	0.096	0.156
153	12.75	0.93	0.252	( 0.219)	0.096	0.156
154	12.83	0.97	0.261	( 0.218)	0.099	0.162
155	12.92	0.97	0.261	( 0.217)	0.099	0.162
156	13.00	0.97	0.261	( 0.216)	0.099	0.162
157	13.08	1.13	0.306	( 0.215)	0.116	0.190
158	13.17	1.13	0.306	( 0.214)	0.116	0.190
159	13.25	1.13	0.306	( 0.213)	0.116	0.190
160	13.33	1.13	0.306	( 0.212)	0.116	0.190
161	13.42	1.13	0.306	( 0.211)	0.116	0.190
162	13.50	1.13	0.306	( 0.210)	0.116	0.190
163	13.58	0.77	0.207	( 0.208)	0.079	0.128
164	13.67	0.77	0.207	( 0.207)	0.079	0.128
165	13.75	0.77	0.207	( 0.206)	0.079	0.128
166	13.83	0.77	0.207	( 0.205)	0.079	0.128
167	13.92	0.77	0.207	( 0.204)	0.079	0.128
168	14.00	0.77	0.207	( 0.203)	0.079	0.128
169	14.08	0.90	0.243	( 0.202)	0.092	0.151
170	14.17	0.90	0.243	( 0.201)	0.092	0.151
171	14.25	0.90	0.243	( 0.200)	0.092	0.151
172	14.33	0.87	0.234	( 0.199)	0.089	0.145
173	14.42	0.87	0.234	( 0.198)	0.089	0.145
174	14.50	0.87	0.234	( 0.197)	0.089	0.145
175	14.58	0.87	0.234	( 0.196)	0.089	0.145
176	14.67	0.87	0.234	( 0.195)	0.089	0.145
177	14.75	0.87	0.234	( 0.194)	0.089	0.145
178	14.83	0.83	0.225	( 0.193)	0.085	0.139
179	14.92	0.83	0.225	( 0.192)	0.085	0.139
180	15.00	0.83	0.225	( 0.191)	0.085	0.139
181	15.08	0.80	0.216	( 0.190)	0.082	0.134
182	15.17	0.80	0.216	( 0.189)	0.082	0.134
183	15.25	0.80	0.216	( 0.188)	0.082	0.134
184	15.33	0.77	0.207	( 0.187)	0.079	0.128
185	15.42	0.77	0.207	( 0.186)	0.079	0.128
186	15.50	0.77	0.207	( 0.185)	0.079	0.128
187	15.58	0.63	0.171	( 0.184)	0.065	0.106
188	15.67	0.63	0.171	( 0.183)	0.065	0.106
189	15.75	0.63	0.171	( 0.182)	0.065	0.106
190	15.83	0.63	0.171	( 0.181)	0.065	0.106
191	15.92	0.63	0.171	( 0.181)	0.065	0.106
192	16.00	0.63	0.171	( 0.180)	0.065	0.106
193	16.08	0.13	0.036	( 0.179)	0.014	0.022
194	16.17	0.13	0.036	( 0.178)	0.014	0.022
195	16.25	0.13	0.036	( 0.177)	0.014	0.022
196	16.33	0.13	0.036	( 0.176)	0.014	0.022
197	16.42	0.13	0.036	( 0.175)	0.014	0.022
198	16.50	0.13	0.036	( 0.174)	0.014	0.022
199	16.58	0.10	0.027	( 0.173)	0.010	0.017
200	16.67	0.10	0.027	( 0.172)	0.010	0.017
201	16.75	0.10	0.027	( 0.172)	0.010	0.017
202	16.83	0.10	0.027	( 0.171)	0.010	0.017
203	16.92	0.10	0.027	( 0.170)	0.010	0.017

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

204	17.00	0.10	0.027	( 0.169)	0.010	0.017
205	17.08	0.17	0.045	( 0.168)	0.017	0.028
206	17.17	0.17	0.045	( 0.167)	0.017	0.028
207	17.25	0.17	0.045	( 0.166)	0.017	0.028
208	17.33	0.17	0.045	( 0.166)	0.017	0.028
209	17.42	0.17	0.045	( 0.165)	0.017	0.028
210	17.50	0.17	0.045	( 0.164)	0.017	0.028
211	17.58	0.17	0.045	( 0.163)	0.017	0.028
212	17.67	0.17	0.045	( 0.162)	0.017	0.028
213	17.75	0.17	0.045	( 0.161)	0.017	0.028
214	17.83	0.13	0.036	( 0.161)	0.014	0.022
215	17.92	0.13	0.036	( 0.160)	0.014	0.022
216	18.00	0.13	0.036	( 0.159)	0.014	0.022
217	18.08	0.13	0.036	( 0.158)	0.014	0.022
218	18.17	0.13	0.036	( 0.158)	0.014	0.022
219	18.25	0.13	0.036	( 0.157)	0.014	0.022
220	18.33	0.13	0.036	( 0.156)	0.014	0.022
221	18.42	0.13	0.036	( 0.155)	0.014	0.022
222	18.50	0.13	0.036	( 0.154)	0.014	0.022
223	18.58	0.10	0.027	( 0.154)	0.010	0.017
224	18.67	0.10	0.027	( 0.153)	0.010	0.017
225	18.75	0.10	0.027	( 0.152)	0.010	0.017
226	18.83	0.07	0.018	( 0.152)	0.007	0.011
227	18.92	0.07	0.018	( 0.151)	0.007	0.011
228	19.00	0.07	0.018	( 0.150)	0.007	0.011
229	19.08	0.10	0.027	( 0.149)	0.010	0.017
230	19.17	0.10	0.027	( 0.149)	0.010	0.017
231	19.25	0.10	0.027	( 0.148)	0.010	0.017
232	19.33	0.13	0.036	( 0.147)	0.014	0.022
233	19.42	0.13	0.036	( 0.147)	0.014	0.022
234	19.50	0.13	0.036	( 0.146)	0.014	0.022
235	19.58	0.10	0.027	( 0.145)	0.010	0.017
236	19.67	0.10	0.027	( 0.145)	0.010	0.017
237	19.75	0.10	0.027	( 0.144)	0.010	0.017
238	19.83	0.07	0.018	( 0.143)	0.007	0.011
239	19.92	0.07	0.018	( 0.143)	0.007	0.011
240	20.00	0.07	0.018	( 0.142)	0.007	0.011
241	20.08	0.10	0.027	( 0.141)	0.010	0.017
242	20.17	0.10	0.027	( 0.141)	0.010	0.017
243	20.25	0.10	0.027	( 0.140)	0.010	0.017
244	20.33	0.10	0.027	( 0.140)	0.010	0.017
245	20.42	0.10	0.027	( 0.139)	0.010	0.017
246	20.50	0.10	0.027	( 0.138)	0.010	0.017
247	20.58	0.10	0.027	( 0.138)	0.010	0.017
248	20.67	0.10	0.027	( 0.137)	0.010	0.017
249	20.75	0.10	0.027	( 0.137)	0.010	0.017
250	20.83	0.07	0.018	( 0.136)	0.007	0.011
251	20.92	0.07	0.018	( 0.136)	0.007	0.011
252	21.00	0.07	0.018	( 0.135)	0.007	0.011
253	21.08	0.10	0.027	( 0.134)	0.010	0.017
254	21.17	0.10	0.027	( 0.134)	0.010	0.017
255	21.25	0.10	0.027	( 0.133)	0.010	0.017
256	21.33	0.07	0.018	( 0.133)	0.007	0.011
257	21.42	0.07	0.018	( 0.132)	0.007	0.011
258	21.50	0.07	0.018	( 0.132)	0.007	0.011
259	21.58	0.10	0.027	( 0.131)	0.010	0.017
260	21.67	0.10	0.027	( 0.131)	0.010	0.017
261	21.75	0.10	0.027	( 0.130)	0.010	0.017
262	21.83	0.07	0.018	( 0.130)	0.007	0.011
263	21.92	0.07	0.018	( 0.130)	0.007	0.011
264	22.00	0.07	0.018	( 0.129)	0.007	0.011
265	22.08	0.10	0.027	( 0.129)	0.010	0.017
266	22.17	0.10	0.027	( 0.128)	0.010	0.017

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

267	22.25	0.10	0.027	( 0.128)	0.010	0.017
268	22.33	0.07	0.018	( 0.127)	0.007	0.011
269	22.42	0.07	0.018	( 0.127)	0.007	0.011
270	22.50	0.07	0.018	( 0.127)	0.007	0.011
271	22.58	0.07	0.018	( 0.126)	0.007	0.011
272	22.67	0.07	0.018	( 0.126)	0.007	0.011
273	22.75	0.07	0.018	( 0.126)	0.007	0.011
274	22.83	0.07	0.018	( 0.125)	0.007	0.011
275	22.92	0.07	0.018	( 0.125)	0.007	0.011
276	23.00	0.07	0.018	( 0.125)	0.007	0.011
277	23.08	0.07	0.018	( 0.124)	0.007	0.011
278	23.17	0.07	0.018	( 0.124)	0.007	0.011
279	23.25	0.07	0.018	( 0.124)	0.007	0.011
280	23.33	0.07	0.018	( 0.124)	0.007	0.011
281	23.42	0.07	0.018	( 0.123)	0.007	0.011
282	23.50	0.07	0.018	( 0.123)	0.007	0.011
283	23.58	0.07	0.018	( 0.123)	0.007	0.011
284	23.67	0.07	0.018	( 0.123)	0.007	0.011
285	23.75	0.07	0.018	( 0.123)	0.007	0.011
286	23.83	0.07	0.018	( 0.123)	0.007	0.011
287	23.92	0.07	0.018	( 0.122)	0.007	0.011
288	24.00	0.07	0.018	( 0.122)	0.007	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 16.7

Flood volume = Effective rainfall 1.39(In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 10.6(Ac.Ft)

Total soil loss = 0.85(In)  
Total soil loss = 6.518(Ac.Ft)

Total rainfall = 2.25(In)  
Flood volume = 463259.5 Cubic Feet  
Total soil loss = 283933.2 Cubic Feet

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Peak flow rate of this hydrograph = 17.460(CFS)  
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+++++  
24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
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Hydrograph in 5 Minute intervals ((CFS))  
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0017	0.25	Q				
0+10	0.0069	0.75	VQ				
0+15	0.0131	0.89	VQ				
0+20	0.0205	1.08	V Q				
0+25	0.0300	1.37	V Q				
0+30	0.0400	1.46	V Q				
0+35	0.0504	1.51	V Q				
0+40	0.0609	1.53	V Q				
0+45	0.0715	1.54	V Q				
0+50	0.0830	1.67	V Q				
0+55	0.0962	1.92	V Q				
1+ 0	0.1099	1.99	V Q				
1+ 5	0.1230	1.90	V Q				
1+10	0.1345	1.66	V Q				
1+15	0.1455	1.60	V Q				
1+20	0.1564	1.58	V Q				
1+25	0.1671	1.56	V Q				
1+30	0.1778	1.55	V Q				
1+35	0.1885	1.54	V Q				
1+40	0.1991	1.54	V Q				



**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

1+45	0.2097	1.54	V	Q				
1+50	0.2212	1.67	V	Q				
1+55	0.2345	1.92	V	Q				
2+ 0	0.2482	1.99	V	Q				
2+ 5	0.2621	2.02	V	Q				
2+10	0.2762	2.04	V	Q				
2+15	0.2903	2.05	V	Q				
2+20	0.3045	2.06	V	Q				
2+25	0.3187	2.06	V	Q				
2+30	0.3328	2.06	V	Q				
2+35	0.3479	2.18	V	Q				
2+40	0.3647	2.44	V	Q				
2+45	0.3819	2.51	V	Q				
2+50	0.3994	2.54	V	Q				
2+55	0.4170	2.56	V	Q				
3+ 0	0.4347	2.57	V	Q				
3+ 5	0.4524	2.57	V	Q				
3+10	0.4701	2.57	V	Q				
3+15	0.4878	2.57	V	Q				
3+20	0.5056	2.57	V	Q				
3+25	0.5233	2.57	V	Q				
3+30	0.5410	2.57	V	Q				
3+35	0.5587	2.57	V	Q				
3+40	0.5765	2.57	V	Q				
3+45	0.5942	2.57	V	Q				
3+50	0.6128	2.70	V	Q				
3+55	0.6331	2.95	V	Q				
4+ 0	0.6539	3.02	V	Q				
4+ 5	0.6749	3.05	V	Q				
4+10	0.6961	3.07	V	Q				
4+15	0.7173	3.08	V	Q				
4+20	0.7394	3.21	V	Q				
4+25	0.7633	3.47	V	Q				
4+30	0.7876	3.54	V	Q				
4+35	0.8122	3.57	V	Q				
4+40	0.8369	3.58	V	Q				
4+45	0.8616	3.59	V	Q				
4+50	0.8873	3.73	V	Q				
4+55	0.9147	3.98	V	Q				
5+ 0	0.9426	4.05	V	Q				
5+ 5	0.9690	3.83	V	Q				
5+10	0.9920	3.35	V	Q				
5+15	1.0142	3.22	V	Q				
5+20	1.0368	3.29	V	Q				
5+25	1.0609	3.50	V	Q				
5+30	1.0854	3.55	V	Q				
5+35	1.1108	3.69	V	Q				
5+40	1.1381	3.96	V	Q				
5+45	1.1659	4.04	V	Q				
5+50	1.1941	4.08	V	Q				
5+55	1.2223	4.10	V	Q				
6+ 0	1.2506	4.11	V	Q				
6+ 5	1.2798	4.24	V	Q				
6+10	1.3108	4.49	V	Q				
6+15	1.3422	4.56	V	Q				
6+20	1.3739	4.60	V	Q				
6+25	1.4056	4.61	V	Q				
6+30	1.4375	4.62	V	Q				
6+35	1.4703	4.76	V	Q				
6+40	1.5048	5.01	V	Q				
6+45	1.5397	5.08	V	Q				
6+50	1.5749	5.11	V	Q				
6+55	1.6103	5.13	V	Q				

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

7+ 0	1.6457	5.14	V	Q				
7+ 5	1.6811	5.15	V	Q				
7+10	1.7166	5.15	V	Q				
7+15	1.7520	5.15	V	Q				
7+20	1.7883	5.27	V	Q				
7+25	1.8264	5.52	V	Q				
7+30	1.8649	5.59	V	Q				
7+35	1.9045	5.75	V	Q				
7+40	1.9460	6.02	V	Q				
7+45	1.9880	6.10	V	Q				
7+50	2.0311	6.27	V	Q				
7+55	2.0762	6.54	V	Q				
8+ 0	2.1217	6.62	V	Q				
8+ 5	2.1693	6.91	V	Q				
8+10	2.2204	7.43	V	Q				
8+15	2.2726	7.58	V	Q				
8+20	2.3253	7.65	V	Q				
8+25	2.3782	7.68	V	Q				
8+30	2.4313	7.70	V	Q				
8+35	2.4853	7.85	V	Q				
8+40	2.5411	8.10	V	Q				
8+45	2.5973	8.17	V	Q				
8+50	2.6547	8.33	V	Q				
8+55	2.7139	8.59	V	Q				
9+ 0	2.7736	8.67	V	Q				
9+ 5	2.8353	8.97	V	Q				
9+10	2.9007	9.49	V	Q				
9+15	2.9670	9.64	V	Q				
9+20	3.0348	9.83	V	Q				
9+25	3.1044	10.12	V	Q				
9+30	3.1748	10.21	V	Q				
9+35	3.2463	10.38	V	Q				
9+40	3.3196	10.65	V	Q				
9+45	3.3936	10.73	V	Q				
9+50	3.4686	10.90	V	Q				
9+55	3.5455	11.17	V	Q				
10+ 0	3.6230	11.25	V	Q				
10+ 5	3.6947	10.41	V	Q				
10+10	3.7544	8.67	V	Q				
10+15	3.8108	8.19	V	Q				
10+20	3.8657	7.98	V	Q				
10+25	3.9198	7.85	V	Q				
10+30	3.9733	7.78	V	Q				
10+35	4.0308	8.35	V	Q				
10+40	4.0970	9.61	V	Q				
10+45	4.1656	9.95	V	Q				
10+50	4.2352	10.11	V	Q				
10+55	4.3055	10.20	V	Q				
11+ 0	4.3761	10.25	V	Q				
11+ 5	4.4461	10.17	V	Q				
11+10	4.5144	9.92	V	Q				
11+15	4.5822	9.85	V	Q				
11+20	4.6498	9.82	V	Q				
11+25	4.7173	9.80	V	Q				
11+30	4.7847	9.79	V	Q				
11+35	4.8504	9.53	V	Q				
11+40	4.9125	9.03	V	Q				
11+45	4.9737	8.89	V	Q				
11+50	5.0354	8.95	V	Q				
11+55	5.0985	9.16	V	Q				
12+ 0	5.1619	9.21	V	Q				
12+ 5	5.2316	10.11	V	Q				
12+10	5.3134	11.89	V	Q				

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

12+15	5.3987	12.38			V	Q		
12+20	5.4864	12.74			V	Q		
12+25	5.5768	13.11			V	Q		
12+30	5.6681	13.26			V	Q		
12+35	5.7617	13.60			V	Q		
12+40	5.8590	14.12			V	Q		
12+45	5.9572	14.27			V	Q		
12+50	6.0569	14.47			V	Q		
12+55	6.1584	14.75			V	Q		
13+ 0	6.2607	14.84			V	Q		
13+ 5	6.3676	15.52			V	Q		
13+10	6.4832	16.79			V		Q	
13+15	6.6014	17.15			V		Q	
13+20	6.7206	17.32			V		Q	
13+25	6.8405	17.41			V		Q	
13+30	6.9608	17.46			V		Q	
13+35	7.0718	16.12			V		Q	
13+40	7.1637	13.35				Q		
13+45	7.2504	12.59				Q	V	
13+50	7.3347	12.24				Q	V	
13+55	7.4176	12.04				Q	V	
14+ 0	7.4998	11.93				Q	V	
14+ 5	7.5848	12.34				Q	V	
14+10	7.6767	13.35				Q	V	
14+15	7.7706	13.63				Q	V	
14+20	7.8644	13.63				Q	V	
14+25	7.9570	13.45				Q	V	
14+30	8.0494	13.42				Q	V	
14+35	8.1419	13.42				Q	V	
14+40	8.2342	13.40				Q	V	
14+45	8.3264	13.39				Q	V	
14+50	8.4177	13.26				Q	V	
14+55	8.5073	13.01				Q	V	
15+ 0	8.5963	12.94				Q	V	
15+ 5	8.6844	12.78				Q	V	
15+10	8.7705	12.51				Q	V	
15+15	8.8561	12.43				Q	V	
15+20	8.9406	12.26				Q	V	
15+25	9.0232	12.00				Q	V	
15+30	9.1053	11.92				Q	V	
15+35	9.1836	11.37				Q	V	
15+40	9.2548	10.35				Q	V	
15+45	9.3241	10.06				Q	V	
15+50	9.3925	9.93				Q	V	
15+55	9.4604	9.85				Q	V	
16+ 0	9.5279	9.81				Q	V	
16+ 5	9.5823	7.89		Q			V	
16+10	9.6107	4.12		Q			V	
16+15	9.6319	3.08		Q			V	
16+20	9.6498	2.60		Q			V	
16+25	9.6659	2.34		Q			V	
16+30	9.6810	2.18		Q			V	
16+35	9.6943	1.93		Q			V	
16+40	9.7059	1.68		Q			V	
16+45	9.7170	1.61		Q			V	
16+50	9.7279	1.58		Q			V	
16+55	9.7386	1.56		Q			V	
17+ 0	9.7493	1.55		Q			V	
17+ 5	9.7617	1.80		Q			V	
17+10	9.7775	2.30		Q			V	
17+15	9.7943	2.44		Q			V	
17+20	9.8115	2.50		Q			V	
17+25	9.8290	2.54		Q			V	

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

17+30	9.8466	2.56	Q			V
17+35	9.8643	2.57	Q			V
17+40	9.8821	2.57	Q			V
17+45	9.8998	2.57	Q			V
17+50	9.9166	2.45	Q			V
17+55	9.9318	2.20	Q			V
18+ 0	9.9464	2.13	Q			V
18+ 5	9.9608	2.10	Q			V
18+10	9.9752	2.08	Q			V
18+15	9.9894	2.07	Q			V
18+20	10.0036	2.06	Q			V
18+25	10.0177	2.06	Q			V
18+30	10.0319	2.06	Q			V
18+35	10.0452	1.93	Q			V
18+40	10.0568	1.68	Q			V
18+45	10.0679	1.61	Q			V
18+50	10.0779	1.45	Q			V
18+55	10.0861	1.19	Q			V
19+ 0	10.0937	1.11	Q			V
19+ 5	10.1019	1.19	Q			V
19+10	10.1118	1.43	Q			V
19+15	10.1220	1.48	Q			V
19+20	10.1332	1.63	Q			V
19+25	10.1463	1.90	Q			V
19+30	10.1600	1.98	Q			V
19+35	10.1730	1.90	Q			V
19+40	10.1845	1.66	Q			V
19+45	10.1955	1.60	Q			V
19+50	10.2056	1.45	Q			V
19+55	10.2137	1.19	Q			V
20+ 0	10.2213	1.11	Q			V
20+ 5	10.2296	1.19	Q			V
20+10	10.2394	1.43	Q			V
20+15	10.2496	1.48	Q			V
20+20	10.2600	1.51	Q			V
20+25	10.2705	1.53	Q			V
20+30	10.2811	1.54	Q			V
20+35	10.2917	1.54	Q			V
20+40	10.3023	1.54	Q			V
20+45	10.3130	1.54	Q			V
20+50	10.3227	1.42	Q			V
20+55	10.3308	1.17	Q			V
21+ 0	10.3383	1.10	Q			V
21+ 5	10.3465	1.19	Q			V
21+10	10.3564	1.43	Q			V
21+15	10.3666	1.48	Q			V
21+20	10.3761	1.38	Q			V
21+25	10.3840	1.15	Q			V
21+30	10.3915	1.09	Q			V
21+35	10.3997	1.19	Q			V
21+40	10.4095	1.43	Q			V
21+45	10.4198	1.48	Q			V
21+50	10.4293	1.38	Q			V
21+55	10.4372	1.15	Q			V
22+ 0	10.4447	1.09	Q			V
22+ 5	10.4529	1.19	Q			V
22+10	10.4627	1.43	Q			V
22+15	10.4729	1.48	Q			V
22+20	10.4824	1.38	Q			V
22+25	10.4904	1.15	Q			V
22+30	10.4979	1.09	Q			V
22+35	10.5052	1.07	Q			V
22+40	10.5124	1.05	Q			V

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

22+45	10.5196	1.04	Q				V
22+50	10.5267	1.03	Q				V
22+55	10.5337	1.03	Q				V
23+ 0	10.5408	1.03	Q				V
23+ 5	10.5479	1.03	Q				V
23+10	10.5550	1.03	Q				V
23+15	10.5621	1.03	Q				V
23+20	10.5692	1.03	Q				V
23+25	10.5763	1.03	Q				V
23+30	10.5834	1.03	Q				V
23+35	10.5905	1.03	Q				V
23+40	10.5976	1.03	Q				V
23+45	10.6046	1.03	Q				V
23+50	10.6117	1.03	Q				V
23+55	10.6188	1.03	Q				V
24+ 0	10.6259	1.03	Q				V
24+ 5	10.6313	0.78	Q				V
24+10	10.6332	0.28	Q				V
24+15	10.6341	0.14	Q				V
24+20	10.6346	0.07	Q				V
24+25	10.6349	0.04	Q				V
24+30	10.6350	0.02	Q				V

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx5prh15.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Proposed Condition  
5-year 1-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.016  
Lag time = 0.071 Hr.  
Lag time = 4.26 Min.  
25% of lag time = 1.06 Min.  
40% of lag time = 1.70 Min.  
Unit time = 5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 5.00  
Area Averaged 2-Year Rainfall = 0.528 (In)  
Area Averaged 100-Year Rainfall = 1.590 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 0.777(In)  
 Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 0.776(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	22.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	4.40	( 0.245)	0.156	0.254
2	0.17	4.50	( 0.245)	0.159	0.260
3	0.25	5.40	( 0.245)	0.191	0.312
4	0.33	5.40	( 0.245)	0.191	0.312
5	0.42	5.70	( 0.245)	0.202	0.329
6	0.50	6.40	( 0.245)	0.226	0.370
7	0.58	7.90	0.245	( 0.280)	0.491
8	0.67	9.10	0.245	( 0.322)	0.603
9	0.75	12.80	0.245	( 0.453)	0.947
10	0.83	25.60	0.245	( 0.906)	2.140
11	0.92	7.90	0.245	( 0.280)	0.491
12	1.00	4.90	( 0.245)	0.173	0.283

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.8

Flood volume = Effective rainfall 0.57 (In)

times area 91.5 (Ac.) / [(In) / (Ft.)] = 4.3 (Ac.Ft)

Total soil loss = 0.21 (In)

Total soil loss = 1.602 (Ac.Ft)

Total rainfall = 0.78 (In)

Flood volume = 187976.2 Cubic Feet

Total soil loss = 69802.2 Cubic Feet

Peak flow rate of this hydrograph = 125.377 (CFS)

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1 - H O U R S T O R M

R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time (h+m)	Volume Ac.Ft	Q (CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0395	5.73	VQ				
0+10	0.1586	17.30	V Q				
0+15	0.3095	21.91	V Q				
0+20	0.4869	25.76	VQ				
0+25	0.6773	27.64	QV				
0+30	0.8847	30.12	Q V				
0+35	1.1288	35.45	Q V				
0+40	1.4329	44.15	Q	V			
0+45	1.8381	58.84	Q	V			
0+50	2.5509	103.50			Q V		
0+55	3.4144	125.38			Q	V	
1+ 0	3.8550	63.97		Q			V
1+ 5	4.1020	35.87		Q			V
1+10	4.2106	15.76	Q				V
1+15	4.2695	8.55	Q				V
1+20	4.3038	4.99	Q				V
1+25	4.3124	1.26	Q				V
1+30	4.3153	0.42	Q				V



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx5prh35.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used  
  
 English Units used in output format  
 -----

Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 5-year 3-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 3 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 5.00  
 Area Averaged 2-Year Rainfall = 0.911 (In)  
 Area Averaged 100-Year Rainfall = 2.330 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 1.243(In)  
 Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 1.243(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.463
2	0.167	234.951	48.785
3	0.250	352.426	13.536
4	0.333	469.902	6.154
5	0.417	587.377	3.437
6	0.500	704.853	2.016
7	0.583	822.328	1.608
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	1.30	( 0.245) 0.074	0.120
2	0.17	1.30	( 0.245) 0.074	0.120
3	0.25	1.10	( 0.245) 0.062	0.102
4	0.33	1.50	( 0.245) 0.085	0.139
5	0.42	1.50	( 0.245) 0.085	0.139
6	0.50	1.80	( 0.245) 0.102	0.166
7	0.58	1.50	( 0.245) 0.085	0.139
8	0.67	1.80	( 0.245) 0.102	0.166
9	0.75	1.80	( 0.245) 0.102	0.166
10	0.83	1.50	( 0.245) 0.085	0.139
11	0.92	1.60	( 0.245) 0.091	0.148
12	1.00	1.80	( 0.245) 0.102	0.166
13	1.08	2.20	( 0.245) 0.125	0.203
14	1.17	2.20	( 0.245) 0.125	0.203

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

15	1.25	2.20	0.328	( 0.245)	0.125	0.203
16	1.33	2.00	0.298	( 0.245)	0.113	0.185
17	1.42	2.60	0.388	( 0.245)	0.147	0.240
18	1.50	2.70	0.403	( 0.245)	0.153	0.250
19	1.58	2.40	0.358	( 0.245)	0.136	0.222
20	1.67	2.70	0.403	( 0.245)	0.153	0.250
21	1.75	3.30	0.492	( 0.245)	0.187	0.305
22	1.83	3.10	0.462	( 0.245)	0.176	0.287
23	1.92	2.90	0.433	( 0.245)	0.164	0.268
24	2.00	3.00	0.447	( 0.245)	0.170	0.277
25	2.08	3.10	0.462	( 0.245)	0.176	0.287
26	2.17	4.20	0.626	( 0.245)	0.238	0.388
27	2.25	5.00	0.746	0.245	( 0.283)	0.501
28	2.33	3.50	0.522	( 0.245)	0.198	0.324
29	2.42	6.80	1.014	0.245	( 0.385)	0.770
30	2.50	7.30	1.089	0.245	( 0.414)	0.844
31	2.58	8.20	1.223	0.245	( 0.465)	0.978
32	2.67	5.90	0.880	0.245	( 0.334)	0.635
33	2.75	2.00	0.298	( 0.245)	0.113	0.185
34	2.83	1.80	0.268	( 0.245)	0.102	0.166
35	2.92	1.80	0.268	( 0.245)	0.102	0.166
36	3.00	0.60	0.089	( 0.245)	0.034	0.055

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.9

Flood volume = Effective rainfall 0.83(In)  
times area 91.5(Ac.) / [(In) / (Ft.)] = 6.3(Ac.Ft)  
Total soil loss = 0.42(In)  
Total soil loss = 3.183(Ac.Ft)  
Total rainfall = 1.24(In)  
Flood volume = 274171.3 Cubic Feet  
Total soil loss = 138640.6 Cubic Feet

Peak flow rate of this hydrograph = 75.823(CFS)

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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0187	2.71	VQ				
0+10	0.0746	8.12	V Q				
0+15	0.1380	9.21	V Q				
0+20	0.2062	9.89	V Q				
0+25	0.2868	11.71	V Q				
0+30	0.3758	12.91	V Q				
0+35	0.4713	13.87	V Q				
0+40	0.5654	13.67	V Q				
0+45	0.6672	14.77	V Q				
0+50	0.7669	14.48	V Q				
0+55	0.8603	13.56	VQ				
1+ 0	0.9576	14.13	VQ				
1+ 5	1.0661	15.76	VQ				
1+10	1.1878	17.66	VQ				
1+15	1.3132	18.21	VQ				
1+20	1.4374	18.04	Q				
1+25	1.5656	18.62	Q				
1+30	1.7116	21.19	Q				
1+35	1.8605	21.62	QV				
1+40	2.0077	21.37	Q V				

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

1+45	2.1711	23.72				Q	V					
1+50	2.3508	26.10					Q	V				
1+55	2.5279	25.71				Q		V				
2+ 0	2.7016	25.22				Q		V				
2+ 5	2.8785	25.69				Q		V				
2+10	3.0748	28.50					Q		V			
2+15	3.3212	35.78						Q	V			
2+20	3.5839	38.14							Q	V		
2+25	3.8747	42.22								Q	V	
2+30	4.3069	62.75									V	Q
2+35	4.8184	74.26									V	
2+40	5.3406	75.82									V	Q
2+45	5.7095	53.57							Q		V	
2+50	5.9172	30.16						Q			V	
2+55	6.0755	22.98				Q					V	
3+ 0	6.1923	16.96					Q				V	
3+ 5	6.2525	8.74		Q							V	
3+10	6.2763	3.45		Q							V	
3+15	6.2861	1.43		Q							V	
3+20	6.2911	0.73		Q							V	
3+25	6.2935	0.35		Q							V	
3+30	6.2941	0.08		Q							V	

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx5prh65.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Proposed Condition  
5-year 6-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.016  
Lag time = 0.071 Hr.  
Lag time = 4.26 Min.  
25% of lag time = 1.06 Min.  
40% of lag time = 1.70 Min.  
Unit time = 5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 5.00  
Area Averaged 2-Year Rainfall = 1.290 (In)  
Area Averaged 100-Year Rainfall = 3.170 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 1.730(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 1.730(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.104	( 0.245)   0.039	0.064
2	0.17	0.125	( 0.245)   0.047	0.077
3	0.25	0.125	( 0.245)   0.047	0.077
4	0.33	0.125	( 0.245)   0.047	0.077
5	0.42	0.125	( 0.245)   0.047	0.077
6	0.50	0.145	( 0.245)   0.055	0.090
7	0.58	0.145	( 0.245)   0.055	0.090
8	0.67	0.145	( 0.245)   0.055	0.090
9	0.75	0.145	( 0.245)   0.055	0.090
10	0.83	0.145	( 0.245)   0.055	0.090
11	0.92	0.145	( 0.245)   0.055	0.090
12	1.00	0.166	( 0.245)   0.063	0.103
13	1.08	0.166	( 0.245)   0.063	0.103
14	1.17	0.166	( 0.245)   0.063	0.103

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	0.80	0.166	( 0.245)	0.063	0.103
16	1.33	0.80	0.166	( 0.245)	0.063	0.103
17	1.42	0.80	0.166	( 0.245)	0.063	0.103
18	1.50	0.80	0.166	( 0.245)	0.063	0.103
19	1.58	0.80	0.166	( 0.245)	0.063	0.103
20	1.67	0.80	0.166	( 0.245)	0.063	0.103
21	1.75	0.80	0.166	( 0.245)	0.063	0.103
22	1.83	0.80	0.166	( 0.245)	0.063	0.103
23	1.92	0.80	0.166	( 0.245)	0.063	0.103
24	2.00	0.90	0.187	( 0.245)	0.071	0.116
25	2.08	0.80	0.166	( 0.245)	0.063	0.103
26	2.17	0.90	0.187	( 0.245)	0.071	0.116
27	2.25	0.90	0.187	( 0.245)	0.071	0.116
28	2.33	0.90	0.187	( 0.245)	0.071	0.116
29	2.42	0.90	0.187	( 0.245)	0.071	0.116
30	2.50	0.90	0.187	( 0.245)	0.071	0.116
31	2.58	0.90	0.187	( 0.245)	0.071	0.116
32	2.67	0.90	0.187	( 0.245)	0.071	0.116
33	2.75	1.00	0.208	( 0.245)	0.079	0.129
34	2.83	1.00	0.208	( 0.245)	0.079	0.129
35	2.92	1.00	0.208	( 0.245)	0.079	0.129
36	3.00	1.00	0.208	( 0.245)	0.079	0.129
37	3.08	1.00	0.208	( 0.245)	0.079	0.129
38	3.17	1.10	0.228	( 0.245)	0.087	0.142
39	3.25	1.10	0.228	( 0.245)	0.087	0.142
40	3.33	1.10	0.228	( 0.245)	0.087	0.142
41	3.42	1.20	0.249	( 0.245)	0.095	0.154
42	3.50	1.30	0.270	( 0.245)	0.103	0.167
43	3.58	1.40	0.291	( 0.245)	0.110	0.180
44	3.67	1.40	0.291	( 0.245)	0.110	0.180
45	3.75	1.50	0.311	( 0.245)	0.118	0.193
46	3.83	1.50	0.311	( 0.245)	0.118	0.193
47	3.92	1.60	0.332	( 0.245)	0.126	0.206
48	4.00	1.60	0.332	( 0.245)	0.126	0.206
49	4.08	1.70	0.353	( 0.245)	0.134	0.219
50	4.17	1.80	0.374	( 0.245)	0.142	0.232
51	4.25	1.90	0.394	( 0.245)	0.150	0.245
52	4.33	2.00	0.415	( 0.245)	0.158	0.257
53	4.42	2.10	0.436	( 0.245)	0.166	0.270
54	4.50	2.10	0.436	( 0.245)	0.166	0.270
55	4.58	2.20	0.457	( 0.245)	0.174	0.283
56	4.67	2.30	0.477	( 0.245)	0.181	0.296
57	4.75	2.40	0.498	( 0.245)	0.189	0.309
58	4.83	2.40	0.498	( 0.245)	0.189	0.309
59	4.92	2.50	0.519	( 0.245)	0.197	0.322
60	5.00	2.60	0.540	( 0.245)	0.205	0.335
61	5.08	3.10	0.643	( 0.245)	0.245	0.399
62	5.17	3.60	0.747	0.245	( 0.284)	0.503
63	5.25	3.90	0.810	0.245	( 0.308)	0.565
64	5.33	4.20	0.872	0.245	( 0.331)	0.627
65	5.42	4.70	0.976	0.245	( 0.371)	0.731
66	5.50	5.60	1.162	0.245	( 0.442)	0.918
67	5.58	1.90	0.394	( 0.245)	0.150	0.245
68	5.67	0.90	0.187	( 0.245)	0.071	0.116
69	5.75	0.60	0.125	( 0.245)	0.047	0.077
70	5.83	0.50	0.104	( 0.245)	0.039	0.064
71	5.92	0.30	0.062	( 0.245)	0.024	0.039
72	6.00	0.20	0.042	( 0.245)	0.016	0.026

(Loss Rate Not Used)

Sum = 100.0 Sum = 13.4

Flood volume = Effective rainfall 1.12 (In)

times area 91.5 (Ac.) / [(In) / (Ft.)] = 8.5 (Ac.Ft)

Total soil loss = 0.61 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Total soil loss = 4.687 (Ac.Ft)  
 Total rainfall = 1.73 (In)  
 Flood volume = 370396.4 Cubic Feet  
 Total soil loss = 204147.1 Cubic Feet

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 Peak flow rate of this hydrograph = 67.491 (CFS)  
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6 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

-----  
 Hydrograph in 5 Minute intervals ((CFS))  
 -----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	17.5	35.0	52.5	70.0
0+ 5	0.0100	1.45	Q				
0+10	0.0420	4.64	V Q				
0+15	0.0834	6.02	V Q				
0+20	0.1285	6.55	V Q				
0+25	0.1755	6.83	V Q				
0+30	0.2256	7.28	V Q				
0+35	0.2806	7.97	V Q				
0+40	0.3367	8.15	V Q				
0+45	0.3934	8.23	V Q				
0+50	0.4503	8.27	V Q				
0+55	0.5075	8.29	V Q				
1+ 0	0.5667	8.60	V Q				
1+ 5	0.6299	9.18	V Q				
1+10	0.6943	9.34	V Q				
1+15	0.7591	9.42	V Q				
1+20	0.8242	9.46	V Q				
1+25	0.8895	9.48	VQ				
1+30	0.9550	9.50	VQ				
1+35	1.0204	9.50	VQ				
1+40	1.0858	9.50	Q				
1+45	1.1512	9.50	Q				
1+50	1.2166	9.50	Q				
1+55	1.2821	9.50	QV				
2+ 0	1.3495	9.79	QV				
2+ 5	1.4189	10.08	QV				
2+10	1.4874	9.95	QV				
2+15	1.5593	10.44	Q V				
2+20	1.6321	10.57	QV				
2+25	1.7053	10.63	Q V				
2+30	1.7787	10.66	Q V				
2+35	1.8522	10.67	Q V				
2+40	1.9258	10.69	Q V				
2+45	2.0014	10.98	Q V				
2+50	2.0810	11.56	Q V				
2+55	2.1617	11.72	Q V				
3+ 0	2.2429	11.79	Q V				
3+ 5	2.3244	11.83	Q V				
3+10	2.4080	12.15	Q  V				
3+15	2.4958	12.74	Q  V				
3+20	2.5847	12.90	Q   V				
3+25	2.6760	13.27	Q   V				
3+30	2.7737	14.18	Q   V				
3+35	2.8786	15.23	Q   V				
3+40	2.9892	16.07	Q   V				
3+45	3.1038	16.63	Q   V				
3+50	3.2232	17.35	Q   V				
3+55	3.3464	17.88	Q   V				



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

4+ 0	3.4743	18.58		Q	V				
4+ 5	3.6058	19.09		Q	V				
4+10	3.7439	20.06		Q	V				
4+15	3.8896	21.15		Q	V				
4+20	4.0430	22.27		Q	V				
4+25	4.2044	23.44		Q	V				
4+30	4.3718	24.31		Q	V				
4+35	4.5435	24.92		Q	V				
4+40	4.7222	25.95		Q	V				
4+45	4.9086	27.06		Q	V				
4+50	5.1009	27.92		Q	V				
4+55	5.2972	28.50		Q	V				
5+ 0	5.5004	29.51		Q	V				
5+ 5	5.7193	31.79		Q	V				
5+10	5.9762	37.30		Q	V				
5+15	6.2814	44.31		Q	V				
5+20	6.6275	50.25		Q	V				
5+25	7.0200	57.00		Q	V				
5+30	7.4849	67.49		Q	V				
5+35	7.9176	62.84		Q	V				
5+40	8.1450	33.02		Q	V				
5+45	8.2796	19.54		Q	V				
5+50	8.3689	12.96		Q	V				
5+55	8.4306	8.96		Q	V				
6+ 0	8.4702	5.74		Q	V				
6+ 5	8.4897	2.83		Q	V				
6+10	8.4970	1.06		Q	V				
6+15	8.5004	0.50		Q	V				
6+20	8.5021	0.25		Q	V				
6+25	8.5029	0.11		Q	V				
6+30	8.5031	0.04		Q	V				

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx5prh245.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 5-year 24-hour storm

-----  
 Drainage Area = 91.50(Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50(Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00(Ft.)  
 Length along longest watercourse measured to centroid = 1560.00(Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70(Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 24 Hour(s)  
 User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 5.00  
 Area Averaged 2-Year Rainfall = 2.250 (In)  
 Area Averaged 100-Year Rainfall = 5.870 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 3.098(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 3.097(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-1					
69.0	49.8	0.574	0.010	0.569	0.064	0.037
67.9	48.5	0.587	0.650	0.244	0.796	0.194
72.3	53.8	0.534	0.900	0.101	0.140	0.014
Sum (F) =						0.245

Area averaged mean soil loss (F) (In/Hr) = 0.245  
 Minimum soil loss rate ((In/Hr)) = 0.122  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.463
2	0.167	234.951	48.785
3	0.250	352.426	13.536
4	0.333	469.902	6.154
5	0.417	587.377	3.437
6	0.500	704.853	2.016
7	0.583	822.328	1.608
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.025	( 0.434)   0.009	0.015
2	0.17	0.025	( 0.432)   0.009	0.015
3	0.25	0.025	( 0.430)   0.009	0.015
4	0.33	0.037	( 0.429)   0.014	0.023
5	0.42	0.037	( 0.427)   0.014	0.023
6	0.50	0.037	( 0.425)   0.014	0.023
7	0.58	0.037	( 0.424)   0.014	0.023
8	0.67	0.037	( 0.422)   0.014	0.023
9	0.75	0.037	( 0.420)   0.014	0.023
10	0.83	0.050	( 0.419)   0.019	0.031
11	0.92	0.050	( 0.417)   0.019	0.031
12	1.00	0.050	( 0.415)   0.019	0.031
13	1.08	0.037	( 0.414)   0.014	0.023
14	1.17	0.037	( 0.412)   0.014	0.023

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	0.10	0.037	( 0.410)	0.014	0.023
16	1.33	0.10	0.037	( 0.409)	0.014	0.023
17	1.42	0.10	0.037	( 0.407)	0.014	0.023
18	1.50	0.10	0.037	( 0.406)	0.014	0.023
19	1.58	0.10	0.037	( 0.404)	0.014	0.023
20	1.67	0.10	0.037	( 0.402)	0.014	0.023
21	1.75	0.10	0.037	( 0.401)	0.014	0.023
22	1.83	0.13	0.050	( 0.399)	0.019	0.031
23	1.92	0.13	0.050	( 0.397)	0.019	0.031
24	2.00	0.13	0.050	( 0.396)	0.019	0.031
25	2.08	0.13	0.050	( 0.394)	0.019	0.031
26	2.17	0.13	0.050	( 0.393)	0.019	0.031
27	2.25	0.13	0.050	( 0.391)	0.019	0.031
28	2.33	0.13	0.050	( 0.389)	0.019	0.031
29	2.42	0.13	0.050	( 0.388)	0.019	0.031
30	2.50	0.13	0.050	( 0.386)	0.019	0.031
31	2.58	0.17	0.062	( 0.385)	0.024	0.038
32	2.67	0.17	0.062	( 0.383)	0.024	0.038
33	2.75	0.17	0.062	( 0.382)	0.024	0.038
34	2.83	0.17	0.062	( 0.380)	0.024	0.038
35	2.92	0.17	0.062	( 0.378)	0.024	0.038
36	3.00	0.17	0.062	( 0.377)	0.024	0.038
37	3.08	0.17	0.062	( 0.375)	0.024	0.038
38	3.17	0.17	0.062	( 0.374)	0.024	0.038
39	3.25	0.17	0.062	( 0.372)	0.024	0.038
40	3.33	0.17	0.062	( 0.371)	0.024	0.038
41	3.42	0.17	0.062	( 0.369)	0.024	0.038
42	3.50	0.17	0.062	( 0.368)	0.024	0.038
43	3.58	0.17	0.062	( 0.366)	0.024	0.038
44	3.67	0.17	0.062	( 0.364)	0.024	0.038
45	3.75	0.17	0.062	( 0.363)	0.024	0.038
46	3.83	0.20	0.074	( 0.361)	0.028	0.046
47	3.92	0.20	0.074	( 0.360)	0.028	0.046
48	4.00	0.20	0.074	( 0.358)	0.028	0.046
49	4.08	0.20	0.074	( 0.357)	0.028	0.046
50	4.17	0.20	0.074	( 0.355)	0.028	0.046
51	4.25	0.20	0.074	( 0.354)	0.028	0.046
52	4.33	0.23	0.087	( 0.352)	0.033	0.054
53	4.42	0.23	0.087	( 0.351)	0.033	0.054
54	4.50	0.23	0.087	( 0.349)	0.033	0.054
55	4.58	0.23	0.087	( 0.348)	0.033	0.054
56	4.67	0.23	0.087	( 0.346)	0.033	0.054
57	4.75	0.23	0.087	( 0.345)	0.033	0.054
58	4.83	0.27	0.099	( 0.343)	0.038	0.061
59	4.92	0.27	0.099	( 0.342)	0.038	0.061
60	5.00	0.27	0.099	( 0.340)	0.038	0.061
61	5.08	0.20	0.074	( 0.339)	0.028	0.046
62	5.17	0.20	0.074	( 0.337)	0.028	0.046
63	5.25	0.20	0.074	( 0.336)	0.028	0.046
64	5.33	0.23	0.087	( 0.334)	0.033	0.054
65	5.42	0.23	0.087	( 0.333)	0.033	0.054
66	5.50	0.23	0.087	( 0.332)	0.033	0.054
67	5.58	0.27	0.099	( 0.330)	0.038	0.061
68	5.67	0.27	0.099	( 0.329)	0.038	0.061
69	5.75	0.27	0.099	( 0.327)	0.038	0.061
70	5.83	0.27	0.099	( 0.326)	0.038	0.061
71	5.92	0.27	0.099	( 0.324)	0.038	0.061
72	6.00	0.27	0.099	( 0.323)	0.038	0.061
73	6.08	0.30	0.112	( 0.321)	0.042	0.069
74	6.17	0.30	0.112	( 0.320)	0.042	0.069
75	6.25	0.30	0.112	( 0.319)	0.042	0.069
76	6.33	0.30	0.112	( 0.317)	0.042	0.069
77	6.42	0.30	0.112	( 0.316)	0.042	0.069

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**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

78	6.50	0.30	0.112	( 0.314)	0.042	0.069
79	6.58	0.33	0.124	( 0.313)	0.047	0.077
80	6.67	0.33	0.124	( 0.312)	0.047	0.077
81	6.75	0.33	0.124	( 0.310)	0.047	0.077
82	6.83	0.33	0.124	( 0.309)	0.047	0.077
83	6.92	0.33	0.124	( 0.307)	0.047	0.077
84	7.00	0.33	0.124	( 0.306)	0.047	0.077
85	7.08	0.33	0.124	( 0.305)	0.047	0.077
86	7.17	0.33	0.124	( 0.303)	0.047	0.077
87	7.25	0.33	0.124	( 0.302)	0.047	0.077
88	7.33	0.37	0.136	( 0.300)	0.052	0.084
89	7.42	0.37	0.136	( 0.299)	0.052	0.084
90	7.50	0.37	0.136	( 0.298)	0.052	0.084
91	7.58	0.40	0.149	( 0.296)	0.056	0.092
92	7.67	0.40	0.149	( 0.295)	0.056	0.092
93	7.75	0.40	0.149	( 0.294)	0.056	0.092
94	7.83	0.43	0.161	( 0.292)	0.061	0.100
95	7.92	0.43	0.161	( 0.291)	0.061	0.100
96	8.00	0.43	0.161	( 0.289)	0.061	0.100
97	8.08	0.50	0.186	( 0.288)	0.071	0.115
98	8.17	0.50	0.186	( 0.287)	0.071	0.115
99	8.25	0.50	0.186	( 0.285)	0.071	0.115
100	8.33	0.50	0.186	( 0.284)	0.071	0.115
101	8.42	0.50	0.186	( 0.283)	0.071	0.115
102	8.50	0.50	0.186	( 0.281)	0.071	0.115
103	8.58	0.53	0.198	( 0.280)	0.075	0.123
104	8.67	0.53	0.198	( 0.279)	0.075	0.123
105	8.75	0.53	0.198	( 0.278)	0.075	0.123
106	8.83	0.57	0.211	( 0.276)	0.080	0.131
107	8.92	0.57	0.211	( 0.275)	0.080	0.131
108	9.00	0.57	0.211	( 0.274)	0.080	0.131
109	9.08	0.63	0.235	( 0.272)	0.089	0.146
110	9.17	0.63	0.235	( 0.271)	0.089	0.146
111	9.25	0.63	0.235	( 0.270)	0.089	0.146
112	9.33	0.67	0.248	( 0.268)	0.094	0.154
113	9.42	0.67	0.248	( 0.267)	0.094	0.154
114	9.50	0.67	0.248	( 0.266)	0.094	0.154
115	9.58	0.70	0.260	( 0.265)	0.099	0.161
116	9.67	0.70	0.260	( 0.263)	0.099	0.161
117	9.75	0.70	0.260	( 0.262)	0.099	0.161
118	9.83	0.73	0.273	( 0.261)	0.104	0.169
119	9.92	0.73	0.273	( 0.260)	0.104	0.169
120	10.00	0.73	0.273	( 0.258)	0.104	0.169
121	10.08	0.50	0.186	( 0.257)	0.071	0.115
122	10.17	0.50	0.186	( 0.256)	0.071	0.115
123	10.25	0.50	0.186	( 0.255)	0.071	0.115
124	10.33	0.50	0.186	( 0.253)	0.071	0.115
125	10.42	0.50	0.186	( 0.252)	0.071	0.115
126	10.50	0.50	0.186	( 0.251)	0.071	0.115
127	10.58	0.67	0.248	( 0.250)	0.094	0.154
128	10.67	0.67	0.248	( 0.248)	0.094	0.154
129	10.75	0.67	0.248	( 0.247)	0.094	0.154
130	10.83	0.67	0.248	( 0.246)	0.094	0.154
131	10.92	0.67	0.248	( 0.245)	0.094	0.154
132	11.00	0.67	0.248	( 0.244)	0.094	0.154
133	11.08	0.63	0.235	( 0.242)	0.089	0.146
134	11.17	0.63	0.235	( 0.241)	0.089	0.146
135	11.25	0.63	0.235	( 0.240)	0.089	0.146
136	11.33	0.63	0.235	( 0.239)	0.089	0.146
137	11.42	0.63	0.235	( 0.238)	0.089	0.146
138	11.50	0.63	0.235	( 0.236)	0.089	0.146
139	11.58	0.57	0.211	( 0.235)	0.080	0.131
140	11.67	0.57	0.211	( 0.234)	0.080	0.131

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**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

141	11.75	0.57	0.211	( 0.233)	0.080	0.131
142	11.83	0.60	0.223	( 0.232)	0.085	0.138
143	11.92	0.60	0.223	( 0.231)	0.085	0.138
144	12.00	0.60	0.223	( 0.229)	0.085	0.138
145	12.08	0.83	0.310	( 0.228)	0.118	0.192
146	12.17	0.83	0.310	( 0.227)	0.118	0.192
147	12.25	0.83	0.310	( 0.226)	0.118	0.192
148	12.33	0.87	0.322	( 0.225)	0.122	0.200
149	12.42	0.87	0.322	( 0.224)	0.122	0.200
150	12.50	0.87	0.322	( 0.223)	0.122	0.200
151	12.58	0.93	0.347	( 0.222)	0.132	0.215
152	12.67	0.93	0.347	( 0.220)	0.132	0.215
153	12.75	0.93	0.347	( 0.219)	0.132	0.215
154	12.83	0.97	0.359	( 0.218)	0.137	0.223
155	12.92	0.97	0.359	( 0.217)	0.137	0.223
156	13.00	0.97	0.359	( 0.216)	0.137	0.223
157	13.08	1.13	0.421	( 0.215)	0.160	0.261
158	13.17	1.13	0.421	( 0.214)	0.160	0.261
159	13.25	1.13	0.421	( 0.213)	0.160	0.261
160	13.33	1.13	0.421	( 0.212)	0.160	0.261
161	13.42	1.13	0.421	( 0.211)	0.160	0.261
162	13.50	1.13	0.421	( 0.210)	0.160	0.261
163	13.58	0.77	0.285	( 0.208)	0.108	0.177
164	13.67	0.77	0.285	( 0.207)	0.108	0.177
165	13.75	0.77	0.285	( 0.206)	0.108	0.177
166	13.83	0.77	0.285	( 0.205)	0.108	0.177
167	13.92	0.77	0.285	( 0.204)	0.108	0.177
168	14.00	0.77	0.285	( 0.203)	0.108	0.177
169	14.08	0.90	0.335	( 0.202)	0.127	0.207
170	14.17	0.90	0.335	( 0.201)	0.127	0.207
171	14.25	0.90	0.335	( 0.200)	0.127	0.207
172	14.33	0.87	0.322	( 0.199)	0.122	0.200
173	14.42	0.87	0.322	( 0.198)	0.122	0.200
174	14.50	0.87	0.322	( 0.197)	0.122	0.200
175	14.58	0.87	0.322	( 0.196)	0.122	0.200
176	14.67	0.87	0.322	( 0.195)	0.122	0.200
177	14.75	0.87	0.322	( 0.194)	0.122	0.200
178	14.83	0.83	0.310	( 0.193)	0.118	0.192
179	14.92	0.83	0.310	( 0.192)	0.118	0.192
180	15.00	0.83	0.310	( 0.191)	0.118	0.192
181	15.08	0.80	0.297	( 0.190)	0.113	0.184
182	15.17	0.80	0.297	( 0.189)	0.113	0.184
183	15.25	0.80	0.297	( 0.188)	0.113	0.184
184	15.33	0.77	0.285	( 0.187)	0.108	0.177
185	15.42	0.77	0.285	( 0.186)	0.108	0.177
186	15.50	0.77	0.285	( 0.185)	0.108	0.177
187	15.58	0.63	0.235	( 0.184)	0.089	0.146
188	15.67	0.63	0.235	( 0.183)	0.089	0.146
189	15.75	0.63	0.235	( 0.182)	0.089	0.146
190	15.83	0.63	0.235	( 0.181)	0.089	0.146
191	15.92	0.63	0.235	( 0.181)	0.089	0.146
192	16.00	0.63	0.235	( 0.180)	0.089	0.146
193	16.08	0.13	0.050	( 0.179)	0.019	0.031
194	16.17	0.13	0.050	( 0.178)	0.019	0.031
195	16.25	0.13	0.050	( 0.177)	0.019	0.031
196	16.33	0.13	0.050	( 0.176)	0.019	0.031
197	16.42	0.13	0.050	( 0.175)	0.019	0.031
198	16.50	0.13	0.050	( 0.174)	0.019	0.031
199	16.58	0.10	0.037	( 0.173)	0.014	0.023
200	16.67	0.10	0.037	( 0.172)	0.014	0.023
201	16.75	0.10	0.037	( 0.172)	0.014	0.023
202	16.83	0.10	0.037	( 0.171)	0.014	0.023
203	16.92	0.10	0.037	( 0.170)	0.014	0.023

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

204	17.00	0.10	0.037	( 0.169)	0.014	0.023
205	17.08	0.17	0.062	( 0.168)	0.024	0.038
206	17.17	0.17	0.062	( 0.167)	0.024	0.038
207	17.25	0.17	0.062	( 0.166)	0.024	0.038
208	17.33	0.17	0.062	( 0.166)	0.024	0.038
209	17.42	0.17	0.062	( 0.165)	0.024	0.038
210	17.50	0.17	0.062	( 0.164)	0.024	0.038
211	17.58	0.17	0.062	( 0.163)	0.024	0.038
212	17.67	0.17	0.062	( 0.162)	0.024	0.038
213	17.75	0.17	0.062	( 0.161)	0.024	0.038
214	17.83	0.13	0.050	( 0.161)	0.019	0.031
215	17.92	0.13	0.050	( 0.160)	0.019	0.031
216	18.00	0.13	0.050	( 0.159)	0.019	0.031
217	18.08	0.13	0.050	( 0.158)	0.019	0.031
218	18.17	0.13	0.050	( 0.158)	0.019	0.031
219	18.25	0.13	0.050	( 0.157)	0.019	0.031
220	18.33	0.13	0.050	( 0.156)	0.019	0.031
221	18.42	0.13	0.050	( 0.155)	0.019	0.031
222	18.50	0.13	0.050	( 0.154)	0.019	0.031
223	18.58	0.10	0.037	( 0.154)	0.014	0.023
224	18.67	0.10	0.037	( 0.153)	0.014	0.023
225	18.75	0.10	0.037	( 0.152)	0.014	0.023
226	18.83	0.07	0.025	( 0.152)	0.009	0.015
227	18.92	0.07	0.025	( 0.151)	0.009	0.015
228	19.00	0.07	0.025	( 0.150)	0.009	0.015
229	19.08	0.10	0.037	( 0.149)	0.014	0.023
230	19.17	0.10	0.037	( 0.149)	0.014	0.023
231	19.25	0.10	0.037	( 0.148)	0.014	0.023
232	19.33	0.13	0.050	( 0.147)	0.019	0.031
233	19.42	0.13	0.050	( 0.147)	0.019	0.031
234	19.50	0.13	0.050	( 0.146)	0.019	0.031
235	19.58	0.10	0.037	( 0.145)	0.014	0.023
236	19.67	0.10	0.037	( 0.145)	0.014	0.023
237	19.75	0.10	0.037	( 0.144)	0.014	0.023
238	19.83	0.07	0.025	( 0.143)	0.009	0.015
239	19.92	0.07	0.025	( 0.143)	0.009	0.015
240	20.00	0.07	0.025	( 0.142)	0.009	0.015
241	20.08	0.10	0.037	( 0.141)	0.014	0.023
242	20.17	0.10	0.037	( 0.141)	0.014	0.023
243	20.25	0.10	0.037	( 0.140)	0.014	0.023
244	20.33	0.10	0.037	( 0.140)	0.014	0.023
245	20.42	0.10	0.037	( 0.139)	0.014	0.023
246	20.50	0.10	0.037	( 0.138)	0.014	0.023
247	20.58	0.10	0.037	( 0.138)	0.014	0.023
248	20.67	0.10	0.037	( 0.137)	0.014	0.023
249	20.75	0.10	0.037	( 0.137)	0.014	0.023
250	20.83	0.07	0.025	( 0.136)	0.009	0.015
251	20.92	0.07	0.025	( 0.136)	0.009	0.015
252	21.00	0.07	0.025	( 0.135)	0.009	0.015
253	21.08	0.10	0.037	( 0.134)	0.014	0.023
254	21.17	0.10	0.037	( 0.134)	0.014	0.023
255	21.25	0.10	0.037	( 0.133)	0.014	0.023
256	21.33	0.07	0.025	( 0.133)	0.009	0.015
257	21.42	0.07	0.025	( 0.132)	0.009	0.015
258	21.50	0.07	0.025	( 0.132)	0.009	0.015
259	21.58	0.10	0.037	( 0.131)	0.014	0.023
260	21.67	0.10	0.037	( 0.131)	0.014	0.023
261	21.75	0.10	0.037	( 0.130)	0.014	0.023
262	21.83	0.07	0.025	( 0.130)	0.009	0.015
263	21.92	0.07	0.025	( 0.130)	0.009	0.015
264	22.00	0.07	0.025	( 0.129)	0.009	0.015
265	22.08	0.10	0.037	( 0.129)	0.014	0.023
266	22.17	0.10	0.037	( 0.128)	0.014	0.023

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

267	22.25	0.10	0.037	( 0.128)	0.014	0.023
268	22.33	0.07	0.025	( 0.127)	0.009	0.015
269	22.42	0.07	0.025	( 0.127)	0.009	0.015
270	22.50	0.07	0.025	( 0.127)	0.009	0.015
271	22.58	0.07	0.025	( 0.126)	0.009	0.015
272	22.67	0.07	0.025	( 0.126)	0.009	0.015
273	22.75	0.07	0.025	( 0.126)	0.009	0.015
274	22.83	0.07	0.025	( 0.125)	0.009	0.015
275	22.92	0.07	0.025	( 0.125)	0.009	0.015
276	23.00	0.07	0.025	( 0.125)	0.009	0.015
277	23.08	0.07	0.025	( 0.124)	0.009	0.015
278	23.17	0.07	0.025	( 0.124)	0.009	0.015
279	23.25	0.07	0.025	( 0.124)	0.009	0.015
280	23.33	0.07	0.025	( 0.124)	0.009	0.015
281	23.42	0.07	0.025	( 0.123)	0.009	0.015
282	23.50	0.07	0.025	( 0.123)	0.009	0.015
283	23.58	0.07	0.025	( 0.123)	0.009	0.015
284	23.67	0.07	0.025	( 0.123)	0.009	0.015
285	23.75	0.07	0.025	( 0.123)	0.009	0.015
286	23.83	0.07	0.025	( 0.123)	0.009	0.015
287	23.92	0.07	0.025	( 0.122)	0.009	0.015
288	24.00	0.07	0.025	( 0.122)	0.009	0.015

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.0

Flood volume = Effective rainfall 1.92(In)  
times area 91.5(Ac.) / [(In) / (Ft.)] = 14.6(Ac.Ft)

Total soil loss = 1.18(In)  
Total soil loss = 8.975(Ac.Ft)

Total rainfall = 3.10(In)  
Flood volume = 637834.6 Cubic Feet  
Total soil loss = 390930.9 Cubic Feet

-----  
Peak flow rate of this hydrograph = 24.039(CFS)  
-----

+++++  
24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
-----

Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0024	0.35	Q				
0+10	0.0095	1.04	VQ				
0+15	0.0180	1.23	VQ				
0+20	0.0283	1.49	VQ				
0+25	0.0413	1.89	V Q				
0+30	0.0551	2.01	V Q				
0+35	0.0694	2.08	V Q				
0+40	0.0839	2.10	V Q				
0+45	0.0984	2.11	V Q				
0+50	0.1143	2.30	V Q				
0+55	0.1325	2.65	V Q				
1+ 0	0.1514	2.74	V Q				
1+ 5	0.1693	2.61	V Q				
1+10	0.1851	2.29	V Q				
1+15	0.2003	2.21	V Q				
1+20	0.2153	2.18	V Q				
1+25	0.2301	2.15	V Q				
1+30	0.2449	2.14	V Q				
1+35	0.2595	2.13	V Q				
1+40	0.2741	2.13	V Q				



**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

1+45	0.2888	2.13	V Q				
1+50	0.3046	2.30	V Q				
1+55	0.3228	2.65	V Q				
2+ 0	0.3417	2.74	V Q				
2+ 5	0.3609	2.78	V Q				
2+10	0.3802	2.81	V Q				
2+15	0.3997	2.82	V Q				
2+20	0.4192	2.83	V Q				
2+25	0.4387	2.83	V Q				
2+30	0.4583	2.83	V Q				
2+35	0.4790	3.01	V Q				
2+40	0.5021	3.35	V Q				
2+45	0.5258	3.45	V Q				
2+50	0.5499	3.49	V Q				
2+55	0.5741	3.52	V Q				
3+ 0	0.5984	3.53	V Q				
3+ 5	0.6229	3.54	V Q				
3+10	0.6473	3.54	V Q				
3+15	0.6717	3.54	V Q				
3+20	0.6961	3.54	V Q				
3+25	0.7205	3.54	V Q				
3+30	0.7449	3.54	V Q				
3+35	0.7693	3.54	V Q				
3+40	0.7937	3.54	V Q				
3+45	0.8181	3.54	V Q				
3+50	0.8437	3.72	V Q				
3+55	0.8717	4.06	V Q				
4+ 0	0.9003	4.16	V Q				
4+ 5	0.9292	4.20	V Q				
4+10	0.9584	4.23	V Q				
4+15	0.9876	4.24	V Q				
4+20	1.0180	4.43	V Q				
4+25	1.0509	4.77	V Q				
4+30	1.0844	4.87	V Q				
4+35	1.1182	4.91	V Q				
4+40	1.1522	4.94	V Q				
4+45	1.1863	4.95	V Q				
4+50	1.2217	5.13	V Q				
4+55	1.2594	5.48	V Q				
5+ 0	1.2978	5.58	V Q				
5+ 5	1.3341	5.27	V Q				
5+10	1.3659	4.61	V Q				
5+15	1.3964	4.43	V Q				
5+20	1.4275	4.53	V Q				
5+25	1.4607	4.82	V Q				
5+30	1.4944	4.89	V Q				
5+35	1.5294	5.08	V Q				
5+40	1.5670	5.45	V Q				
5+45	1.6053	5.56	V Q				
5+50	1.6440	5.62	V Q				
5+55	1.6829	5.64	V Q				
6+ 0	1.7219	5.66	V Q				
6+ 5	1.7621	5.84	V Q				
6+10	1.8047	6.19	V Q				
6+15	1.8480	6.28	V Q				
6+20	1.8916	6.33	V Q				
6+25	1.9353	6.35	V Q				
6+30	1.9792	6.37	V Q				
6+35	2.0243	6.55	V Q				
6+40	2.0718	6.90	V Q				
6+45	2.1200	6.99	V Q				
6+50	2.1684	7.04	V Q				
6+55	2.2171	7.06	V Q				

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

7+ 0	2.2658	7.08		V	Q				
7+ 5	2.3146	7.09		V	Q				
7+10	2.3634	7.09		V	Q				
7+15	2.4122	7.09		V	Q				
7+20	2.4622	7.26		V	Q				
7+25	2.5146	7.61		V	Q				
7+30	2.5677	7.70		V	Q				
7+35	2.6222	7.92		V	Q				
7+40	2.6793	8.29		V	Q				
7+45	2.7371	8.40		V	Q				
7+50	2.7966	8.63		V	Q				
7+55	2.8585	9.00		V	Q				
8+ 0	2.9213	9.11		V	Q				
8+ 5	2.9868	9.51		V	Q				
8+10	3.0572	10.23		V	Q				
8+15	3.1290	10.43		V	Q				
8+20	3.2015	10.53		V	Q				
8+25	3.2744	10.58		V	Q				
8+30	3.3475	10.61		V	Q				
8+35	3.4219	10.80		V	Q				
8+40	3.4987	11.15		V	Q				
8+45	3.5761	11.25		V	Q				
8+50	3.6550	11.46		V	Q				
8+55	3.7365	11.83		V	Q				
9+ 0	3.8188	11.94		V	Q				
9+ 5	3.9038	12.34		V	Q				
9+10	3.9938	13.06		V	Q				
9+15	4.0851	13.27		V	Q				
9+20	4.1784	13.54		V	Q				
9+25	4.2743	13.93		V	Q				
9+30	4.3711	14.06		V	Q				
9+35	4.4696	14.30		V	Q				
9+40	4.5706	14.67		V	Q				
9+45	4.6724	14.78		V	Q				
9+50	4.7758	15.01		V	Q				
9+55	4.8816	15.38		V	Q				
10+ 0	4.9883	15.49		V	Q				
10+ 5	5.0870	14.33		V	Q				
10+10	5.1692	11.93			VQ				
10+15	5.2468	11.27			VQ				
10+20	5.3224	10.98			Q				
10+25	5.3969	10.81			Q				
10+30	5.4706	10.71			Q				
10+35	5.5498	11.50			Q				
10+40	5.6409	13.23			V Q				
10+45	5.7353	13.71			V Q				
10+50	5.8312	13.92			V Q				
10+55	5.9279	14.05			V Q				
11+ 0	6.0252	14.12			V Q				
11+ 5	6.1216	14.00			V Q				
11+10	6.2156	13.65			V Q				
11+15	6.3090	13.56			VQ				
11+20	6.4021	13.52			VQ				
11+25	6.4950	13.49			Q				
11+30	6.5878	13.48			Q				
11+35	6.6782	13.12			QV				
11+40	6.7638	12.43			Q V				
11+45	6.8480	12.24			Q V				
11+50	6.9329	12.32			Q V				
11+55	7.0198	12.62			Q V				
12+ 0	7.1072	12.69			Q V				
12+ 5	7.2030	13.92			QV				
12+10	7.3157	16.36			V Q				

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

12+15	7.4332	17.05			V Q		
12+20	7.5540	17.54			V Q		
12+25	7.6783	18.06			V Q		
12+30	7.8040	18.25			V Q		
12+35	7.9330	18.72			V Q		
12+40	8.0669	19.44			V Q		
12+45	8.2021	19.65			V Q		
12+50	8.3393	19.92			V Q		
12+55	8.4792	20.31			V Q		
13+ 0	8.6199	20.44			V Q		
13+ 5	8.7671	21.37			V Q		
13+10	8.9264	23.12			V Q		
13+15	9.0890	23.62			V Q		
13+20	9.2532	23.85			V Q		
13+25	9.4183	23.97			V Q		
13+30	9.5839	24.04			V Q		
13+35	9.7367	22.19			V Q		
13+40	9.8633	18.39			Q V		
13+45	9.9827	17.33			Q V		
13+50	10.0987	16.85			Q V		
13+55	10.2129	16.58			Q V		
14+ 0	10.3260	16.43			Q V		
14+ 5	10.4431	16.99			Q V		
14+10	10.5696	18.38			Q V		
14+15	10.6988	18.76			Q V		
14+20	10.8281	18.76			Q V		
14+25	10.9556	18.51			Q V		
14+30	11.0828	18.47			Q V		
14+35	11.2100	18.48			Q V		
14+40	11.3371	18.45			Q V		
14+45	11.4641	18.44			Q V		
14+50	11.5898	18.25			Q V		
14+55	11.7131	17.91			Q V		
15+ 0	11.8358	17.81			Q V		
15+ 5	11.9570	17.59			Q V		
15+10	12.0756	17.22			Q V		
15+15	12.1935	17.11			Q V		
15+20	12.3098	16.89			Q V		
15+25	12.4235	16.52			Q V		
15+30	12.5365	16.41			Q V		
15+35	12.6443	15.66			Q V		
15+40	12.7424	14.25			Q V		
15+45	12.8378	13.85			Q V		
15+50	12.9320	13.67			Q V		
15+55	13.0254	13.57			Q V		
16+ 0	13.1185	13.51			Q V		
16+ 5	13.1933	10.86		Q			V
16+10	13.2324	5.68		Q			V
16+15	13.2616	4.24		Q			V
16+20	13.2863	3.59		Q			V
16+25	13.3085	3.22		Q			V
16+30	13.3292	3.01		Q			V
16+35	13.3475	2.66		Q			V
16+40	13.3634	2.32		Q			V
16+45	13.3787	2.22		Q			V
16+50	13.3937	2.18		Q			V
16+55	13.4085	2.15		Q			V
17+ 0	13.4233	2.14		Q			V
17+ 5	13.4403	2.47		Q			V
17+10	13.4621	3.16		Q			V
17+15	13.4852	3.36		Q			V
17+20	13.5089	3.44		Q			V
17+25	13.5330	3.49		Q			V

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

17+30	13.5572	3.52	Q				V
17+35	13.5816	3.54	Q				V
17+40	13.6060	3.54	Q				V
17+45	13.6304	3.54	Q				V
17+50	13.6536	3.37	Q				V
17+55	13.6745	3.02	Q				V
18+ 0	13.6946	2.93	Q				V
18+ 5	13.7145	2.88	Q				V
18+10	13.7342	2.86	Q				V
18+15	13.7538	2.85	Q				V
18+20	13.7733	2.83	Q				V
18+25	13.7928	2.83	Q				V
18+30	13.8124	2.83	Q				V
18+35	13.8307	2.66	Q				V
18+40	13.8466	2.32	Q				V
18+45	13.8619	2.22	Q				V
18+50	13.8757	2.00	Q				V
18+55	13.8870	1.63	Q				V
19+ 0	13.8975	1.52	Q				V
19+ 5	13.9088	1.64	Q				V
19+10	13.9223	1.96	Q				V
19+15	13.9363	2.04	Q				V
19+20	13.9518	2.25	Q				V
19+25	13.9699	2.62	Q				V
19+30	13.9887	2.73	Q				V
19+35	14.0067	2.61	Q				V
19+40	14.0224	2.29	Q				V
19+45	14.0376	2.21	Q				V
19+50	14.0514	2.00	Q				V
19+55	14.0627	1.63	Q				V
20+ 0	14.0732	1.52	Q				V
20+ 5	14.0845	1.64	Q				V
20+10	14.0980	1.96	Q				V
20+15	14.1121	2.04	Q				V
20+20	14.1264	2.08	Q				V
20+25	14.1408	2.10	Q				V
20+30	14.1554	2.11	Q				V
20+35	14.1700	2.13	Q				V
20+40	14.1847	2.13	Q				V
20+45	14.1993	2.13	Q				V
20+50	14.2128	1.95	Q				V
20+55	14.2238	1.61	Q				V
21+ 0	14.2342	1.51	Q				V
21+ 5	14.2455	1.64	Q				V
21+10	14.2591	1.96	Q				V
21+15	14.2731	2.04	Q				V
21+20	14.2862	1.90	Q				V
21+25	14.2971	1.58	Q				V
21+30	14.3075	1.50	Q				V
21+35	14.3188	1.64	Q				V
21+40	14.3323	1.96	Q				V
21+45	14.3463	2.04	Q				V
21+50	14.3594	1.90	Q				V
21+55	14.3703	1.58	Q				V
22+ 0	14.3807	1.50	Q				V
22+ 5	14.3920	1.64	Q				V
22+10	14.4055	1.96	Q				V
22+15	14.4196	2.04	Q				V
22+20	14.4327	1.90	Q				V
22+25	14.4436	1.58	Q				V
22+30	14.4539	1.50	Q				V
22+35	14.4640	1.47	Q				V
22+40	14.4739	1.44	Q				V

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

22+45	14.4838	1.43	Q				V
22+50	14.4935	1.42	Q				V
22+55	14.5033	1.42	Q				V
23+ 0	14.5130	1.42	Q				V
23+ 5	14.5228	1.42	Q				V
23+10	14.5326	1.42	Q				V
23+15	14.5423	1.42	Q				V
23+20	14.5521	1.42	Q				V
23+25	14.5619	1.42	Q				V
23+30	14.5716	1.42	Q				V
23+35	14.5814	1.42	Q				V
23+40	14.5911	1.42	Q				V
23+45	14.6009	1.42	Q				V
23+50	14.6107	1.42	Q				V
23+55	14.6204	1.42	Q				V
24+ 0	14.6302	1.42	Q				V
24+ 5	14.6376	1.07	Q				V
24+10	14.6402	0.38	Q				V
24+15	14.6415	0.19	Q				V
24+20	14.6422	0.10	Q				V
24+25	14.6425	0.05	Q				V
24+30	14.6427	0.02	Q				V

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1  
Study date 05/07/21 File: kx10prh110.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Proposed Condition  
10-year 1-hour storm

-----  
Drainage Area = 91.50(Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50(Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00(Ft.)  
Length along longest watercourse measured to centroid = 1560.00(Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70(Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.016  
Lag time = 0.071 Hr.  
Lag time = 4.26 Min.  
25% of lag time = 1.06 Min.  
40% of lag time = 1.70 Min.  
Unit time = 5.00 Min.  
Duration of storm = 1 Hour(s)  
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
91.50	0.53	48.31

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
91.50	1.59	145.49

STORM EVENT (YEAR) = 10.00  
Area Averaged 2-Year Rainfall = 0.528(In)  
Area Averaged 100-Year Rainfall = 1.590(In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 0.965(In)  
 Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 0.964(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-2					
69.0	69.0	0.373	0.010	0.369	0.064	0.024
67.9	67.9	0.385	0.650	0.160	0.796	0.127
72.3	72.3	0.335	0.900	0.064	0.140	0.009
Sum (F) =						0.160

Area averaged mean soil loss (F) (In/Hr) = 0.160  
 Minimum soil loss rate ((In/Hr)) = 0.080  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	22.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	4.40	0.509   ( 0.193)	0.349
2	0.17	4.50	0.521   ( 0.198)	0.361
3	0.25	5.40	0.625   ( 0.237)	0.465
4	0.33	5.40	0.625   ( 0.237)	0.465
5	0.42	5.70	0.659   ( 0.251)	0.500
6	0.50	6.40	0.740   ( 0.281)	0.581
7	0.58	7.90	0.914   ( 0.347)	0.754
8	0.67	9.10	1.053   ( 0.400)	0.893
9	0.75	12.80	1.481   ( 0.563)	1.321
10	0.83	25.60	2.962   ( 1.125)	2.802
11	0.92	7.90	0.914   ( 0.347)	0.754
12	1.00	4.90	0.567   ( 0.215)	0.407

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.7

Flood volume = Effective rainfall 0.80 (In)

times area 91.5(Ac.)/[ (In)/(Ft.) ] = 6.1 (Ac.Ft)

Total soil loss = 0.16(In)

Total soil loss = 1.218(Ac.Ft)

Total rainfall = 0.96(In)

Flood volume = 267177.4 Cubic Feet

Total soil loss = 53048.7 Cubic Feet

Peak flow rate of this hydrograph = 168.929(CFS)

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1 - H O U R S T O R M

R u n o f f H y d r o g r a p h

-----

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0543	7.88	VQ				
0+10	0.2187	23.87	V Q				
0+15	0.4329	31.10	V Q				
0+20	0.6940	37.92	V Q				
0+25	0.9776	41.18	V Q				
0+30	1.2933	45.84	VQ				
0+35	1.6701	54.71	Q				
0+40	2.1321	67.07	Q				
0+45	2.7235	85.87	Q				
0+50	3.6987	141.61	V Q				
0+55	4.8622	168.93	V Q				
1+ 0	5.4870	90.73	Q				
1+ 5	5.8357	50.63	Q				
1+10	5.9875	22.04	Q				
1+15	6.0693	11.88	Q				
1+20	6.1165	6.85	Q				
1+25	6.1294	1.88	Q				
1+30	6.1335	0.60	Q				



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx10prh310.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 10-year 3-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 3 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	0.91	83.36

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.33	213.19

STORM EVENT (YEAR) = 10.00  
 Area Averaged 2-Year Rainfall = 0.911 (In)  
 Area Averaged 100-Year Rainfall = 2.330 (In)

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 1.495(In)  
 Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 1.494(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-2					
69.0	69.0	0.373	0.010	0.369	0.064	0.024
67.9	67.9	0.385	0.650	0.160	0.796	0.127
72.3	72.3	0.335	0.900	0.064	0.140	0.009
Sum (F) =						0.160

Area averaged mean soil loss (F) (In/Hr) = 0.160  
 Minimum soil loss rate ((In/Hr)) = 0.080  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
		Sum = 100.000	Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	1.30	( 0.160)   0.089	0.145
2	0.17	1.30	( 0.160)   0.089	0.145
3	0.25	1.10	( 0.160)   0.075	0.122
4	0.33	1.50	( 0.160)   0.102	0.167
5	0.42	1.50	( 0.160)   0.102	0.167
6	0.50	1.80	( 0.160)   0.123	0.200
7	0.58	1.50	( 0.160)   0.102	0.167
8	0.67	1.80	( 0.160)   0.123	0.200
9	0.75	1.80	( 0.160)   0.123	0.200
10	0.83	1.50	( 0.160)   0.102	0.167
11	0.92	1.60	( 0.160)   0.109	0.178
12	1.00	1.80	( 0.160)   0.123	0.200
13	1.08	2.20	( 0.160)   0.150	0.245
14	1.17	2.20	( 0.160)   0.150	0.245

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

15	1.25	2.20	0.394	( 0.160)	0.150	0.245
16	1.33	2.00	0.359	( 0.160)	0.136	0.222
17	1.42	2.60	0.466	0.160	( 0.177)	0.306
18	1.50	2.70	0.484	0.160	( 0.184)	0.324
19	1.58	2.40	0.430	0.160	( 0.164)	0.271
20	1.67	2.70	0.484	0.160	( 0.184)	0.324
21	1.75	3.30	0.592	0.160	( 0.225)	0.432
22	1.83	3.10	0.556	0.160	( 0.211)	0.396
23	1.92	2.90	0.520	0.160	( 0.198)	0.360
24	2.00	3.00	0.538	0.160	( 0.204)	0.378
25	2.08	3.10	0.556	0.160	( 0.211)	0.396
26	2.17	4.20	0.753	0.160	( 0.286)	0.593
27	2.25	5.00	0.897	0.160	( 0.341)	0.737
28	2.33	3.50	0.628	0.160	( 0.238)	0.468
29	2.42	6.80	1.219	0.160	( 0.463)	1.060
30	2.50	7.30	1.309	0.160	( 0.497)	1.149
31	2.58	8.20	1.470	0.160	( 0.559)	1.311
32	2.67	5.90	1.058	0.160	( 0.402)	0.898
33	2.75	2.00	0.359	( 0.160)	0.136	0.222
34	2.83	1.80	0.323	( 0.160)	0.123	0.200
35	2.92	1.80	0.323	( 0.160)	0.123	0.200
36	3.00	0.60	0.108	( 0.160)	0.041	0.067

(Loss Rate Not Used)

Sum = 100.0 Sum = 13.1

Flood volume = Effective rainfall 1.09(In)  
times area 91.5(Ac.)/[ (In)/(Ft.) ] = 8.3(Ac.Ft)  
Total soil loss = 0.40(In)  
Total soil loss = 3.065(Ac.Ft)  
Total rainfall = 1.49(In)  
Flood volume = 362755.8 Cubic Feet  
Total soil loss = 133531.8 Cubic Feet

-----  
Peak flow rate of this hydrograph = 103.364(CFS)  
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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0225	3.26	Q				
0+10	0.0897	9.77	VQ				
0+15	0.1660	11.07	V Q				
0+20	0.2479	11.89	VQ				
0+25	0.3448	14.08	VQ				
0+30	0.4517	15.53	VQ				
0+35	0.5665	16.67	VQ				
0+40	0.6798	16.44	Q				
0+45	0.8021	17.76	Q				
0+50	0.9220	17.41	QV				
0+55	1.0343	16.30	QV				
1+ 0	1.1512	16.98	Q V				
1+ 5	1.2817	18.95	Q V				
1+10	1.4280	21.24	Q V				
1+15	1.5787	21.89	Q V				
1+20	1.7281	21.68	Q V				
1+25	1.8849	22.78	Q V				
1+30	2.0696	26.81	Q V				
1+35	2.2582	27.39	Q V				
1+40	2.4429	26.82	Q V				

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

1+45	2.6586	31.32		Q		V				
1+50	2.9059	35.90		Q		V				
1+55	3.1477	35.11		Q		V				
2+ 0	3.3830	34.16		Q		V				
2+ 5	3.6246	35.09		Q		V				
2+10	3.9038	40.53		Q		V				
2+15	4.2685	52.95		Q		V				
2+20	4.6530	55.84		Q		V				
2+25	5.0665	60.04		Q		V				
2+30	5.6646	86.83		Q		V				
2+35	6.3617	101.22		Q		V				
2+40	7.0735	103.36		Q		V		V		
2+45	7.5809	73.66		Q		V		V		
2+50	7.8528	39.49		Q		V		V		
2+55	8.0544	29.27		Q		V		V		
3+ 0	8.2008	21.27		Q		V		V		
3+ 5	8.2763	10.96		Q		V		V		
3+10	8.3063	4.35		Q		V		V		
3+15	8.3181	1.72		Q		V		V		
3+20	8.3241	0.88		Q		V		V		
3+25	8.3270	0.42		Q		V		V		
3+30	8.3277	0.10		Q		V		V		

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 05/07/21 File: kx10prh610.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 10-year 6-hour storm

-----  
 Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
 Length along longest watercourse = 2880.00 (Ft.)  
 Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70 (Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 6 Hour(s)  
 User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	1.29	118.04

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	3.17	290.06

STORM EVENT (YEAR) = 10.00  
 Area Averaged 2-Year Rainfall = 1.290 (In)  
 Area Averaged 100-Year Rainfall = 3.170 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 2.063(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 2.063(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-2					
69.0	69.0	0.373	0.010	0.369	0.064	0.024
67.9	67.9	0.385	0.650	0.160	0.796	0.127
72.3	72.3	0.335	0.900	0.064	0.140	0.009
Sum (F) =						0.160

Area averaged mean soil loss (F) (In/Hr) = 0.160  
 Minimum soil loss rate ((In/Hr)) = 0.080  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.380

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.124	( 0.160)   0.047	0.077
2	0.17	0.149	( 0.160)   0.056	0.092
3	0.25	0.149	( 0.160)   0.056	0.092
4	0.33	0.149	( 0.160)   0.056	0.092
5	0.42	0.149	( 0.160)   0.056	0.092
6	0.50	0.173	( 0.160)   0.066	0.107
7	0.58	0.173	( 0.160)   0.066	0.107
8	0.67	0.173	( 0.160)   0.066	0.107
9	0.75	0.173	( 0.160)   0.066	0.107
10	0.83	0.173	( 0.160)   0.066	0.107
11	0.92	0.173	( 0.160)   0.066	0.107
12	1.00	0.198	( 0.160)   0.075	0.123
13	1.08	0.198	( 0.160)   0.075	0.123
14	1.17	0.198	( 0.160)   0.075	0.123

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

15	1.25	0.80	0.198	( 0.160)	0.075	0.123
16	1.33	0.80	0.198	( 0.160)	0.075	0.123
17	1.42	0.80	0.198	( 0.160)	0.075	0.123
18	1.50	0.80	0.198	( 0.160)	0.075	0.123
19	1.58	0.80	0.198	( 0.160)	0.075	0.123
20	1.67	0.80	0.198	( 0.160)	0.075	0.123
21	1.75	0.80	0.198	( 0.160)	0.075	0.123
22	1.83	0.80	0.198	( 0.160)	0.075	0.123
23	1.92	0.80	0.198	( 0.160)	0.075	0.123
24	2.00	0.90	0.223	( 0.160)	0.085	0.138
25	2.08	0.80	0.198	( 0.160)	0.075	0.123
26	2.17	0.90	0.223	( 0.160)	0.085	0.138
27	2.25	0.90	0.223	( 0.160)	0.085	0.138
28	2.33	0.90	0.223	( 0.160)	0.085	0.138
29	2.42	0.90	0.223	( 0.160)	0.085	0.138
30	2.50	0.90	0.223	( 0.160)	0.085	0.138
31	2.58	0.90	0.223	( 0.160)	0.085	0.138
32	2.67	0.90	0.223	( 0.160)	0.085	0.138
33	2.75	1.00	0.248	( 0.160)	0.094	0.153
34	2.83	1.00	0.248	( 0.160)	0.094	0.153
35	2.92	1.00	0.248	( 0.160)	0.094	0.153
36	3.00	1.00	0.248	( 0.160)	0.094	0.153
37	3.08	1.00	0.248	( 0.160)	0.094	0.153
38	3.17	1.10	0.272	( 0.160)	0.103	0.169
39	3.25	1.10	0.272	( 0.160)	0.103	0.169
40	3.33	1.10	0.272	( 0.160)	0.103	0.169
41	3.42	1.20	0.297	( 0.160)	0.113	0.184
42	3.50	1.30	0.322	( 0.160)	0.122	0.200
43	3.58	1.40	0.347	( 0.160)	0.132	0.215
44	3.67	1.40	0.347	( 0.160)	0.132	0.215
45	3.75	1.50	0.371	( 0.160)	0.141	0.230
46	3.83	1.50	0.371	( 0.160)	0.141	0.230
47	3.92	1.60	0.396	( 0.160)	0.151	0.246
48	4.00	1.60	0.396	( 0.160)	0.151	0.246
49	4.08	1.70	0.421	0.160	( 0.160)	0.261
50	4.17	1.80	0.446	0.160	( 0.169)	0.286
51	4.25	1.90	0.470	0.160	( 0.179)	0.311
52	4.33	2.00	0.495	0.160	( 0.188)	0.335
53	4.42	2.10	0.520	0.160	( 0.198)	0.360
54	4.50	2.10	0.520	0.160	( 0.198)	0.360
55	4.58	2.20	0.545	0.160	( 0.207)	0.385
56	4.67	2.30	0.569	0.160	( 0.216)	0.410
57	4.75	2.40	0.594	0.160	( 0.226)	0.434
58	4.83	2.40	0.594	0.160	( 0.226)	0.434
59	4.92	2.50	0.619	0.160	( 0.235)	0.459
60	5.00	2.60	0.644	0.160	( 0.245)	0.484
61	5.08	3.10	0.767	0.160	( 0.292)	0.608
62	5.17	3.60	0.891	0.160	( 0.339)	0.731
63	5.25	3.90	0.965	0.160	( 0.367)	0.806
64	5.33	4.20	1.040	0.160	( 0.395)	0.880
65	5.42	4.70	1.163	0.160	( 0.442)	1.004
66	5.50	5.60	1.386	0.160	( 0.527)	1.226
67	5.58	1.90	0.470	0.160	( 0.179)	0.311
68	5.67	0.90	0.223	( 0.160)	0.085	0.138
69	5.75	0.60	0.149	( 0.160)	0.056	0.092
70	5.83	0.50	0.124	( 0.160)	0.047	0.077
71	5.92	0.30	0.074	( 0.160)	0.028	0.046
72	6.00	0.20	0.050	( 0.160)	0.019	0.031

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.3

Flood volume = Effective rainfall 1.44 (In)

times area 91.5 (Ac.) / [(In) / (Ft.)] = 11.0 (Ac.Ft)

Total soil loss = 0.62 (In)

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

Total soil loss = 4.737(Ac.Ft)  
 Total rainfall = 2.06(In)  
 Flood volume = 478786.9 Cubic Feet  
 Total soil loss = 206361.2 Cubic Feet

-----  
 Peak flow rate of this hydrograph = 92.591(CFS)  
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6 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

-----  
 Hydrograph in 5 Minute intervals ((CFS))  
 -----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	25.0	50.0	75.0	100.0
0+ 5	0.0119	1.73	Q				
0+10	0.0500	5.53	V Q				
0+15	0.0995	7.18	V Q				
0+20	0.1533	7.81	V Q				
0+25	0.2093	8.14	V Q				
0+30	0.2691	8.68	V Q				
0+35	0.3346	9.51	V Q				
0+40	0.4016	9.72	V Q				
0+45	0.4691	9.81	V Q				
0+50	0.5370	9.86	V Q				
0+55	0.6051	9.89	VQ				
1+ 0	0.6758	10.26	V Q				
1+ 5	0.7512	10.95	V Q				
1+10	0.8279	11.14	VQ				
1+15	0.9053	11.23	VQ				
1+20	0.9829	11.28	VQ				
1+25	1.0608	11.31	VQ				
1+30	1.1388	11.33	Q				
1+35	1.2168	11.33	Q				
1+40	1.2948	11.33	Q				
1+45	1.3728	11.33	Q				
1+50	1.4508	11.33	QV				
1+55	1.5289	11.33	QV				
2+ 0	1.6093	11.67	QV				
2+ 5	1.6920	12.02	Q V				
2+10	1.7738	11.87	Q V				
2+15	1.8595	12.45	Q V				
2+20	1.9463	12.61	Q V				
2+25	2.0336	12.67	Q V				
2+30	2.1212	12.72	Q V				
2+35	2.2088	12.72	Q V				
2+40	2.2965	12.74	Q V				
2+45	2.3867	13.09	Q V				
2+50	2.4816	13.78	Q V				
2+55	2.5778	13.97	Q V				
3+ 0	2.6747	14.06	Q V				
3+ 5	2.7718	14.11	Q V				
3+10	2.8716	14.48	Q V				
3+15	2.9762	15.20	Q V				
3+20	3.0822	15.39	Q  V				
3+25	3.1912	15.82	Q  V				
3+30	3.3076	16.91	Q   V				
3+35	3.4327	18.17	Q   V				
3+40	3.5647	19.16	Q   V				
3+45	3.7013	19.83	Q   V				
3+50	3.8437	20.69	Q   V				
3+55	3.9906	21.32	Q   V				



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

4+ 0	4.1432	22.15		Q		V				
4+ 5	4.3000	22.77		Q		V				
4+10	4.4662	24.14		Q		V				
4+15	4.6459	26.08		Q		V				
4+20	4.8399	28.18		Q		V				
4+25	5.0491	30.37		Q		V				
4+30	5.2698	32.04		Q		V				
4+35	5.4985	33.20		Q		V				
4+40	5.7407	35.18		Q		V				
4+45	5.9977	37.32		Q		V				
4+50	6.2661	38.97		Q		V				
4+55	6.5422	40.09		Q		V				
5+ 0	6.8316	42.03		Q		V				
5+ 5	7.1512	46.40		Q		V				
5+10	7.5321	55.30		Q		V				
5+15	7.9753	64.35		Q		V				
5+20	8.4694	71.74		Q		V				
5+25	9.0202	79.98		Q		V				
5+30	9.6579	92.59		Q		V				
5+35	10.2403	84.56		Q		V				
5+40	10.5398	43.49		Q		V				
5+45	10.7130	25.15		Q		V				
5+50	10.8262	16.43		Q		V				
5+55	10.9032	11.18		Q		V				
6+ 0	10.9519	7.08		Q		V				
6+ 5	10.9754	3.40		Q		V				
6+10	10.9841	1.26		Q		V				
6+15	10.9882	0.60		Q		V				
6+20	10.9903	0.30		Q		V				
6+25	10.9911	0.13		Q		V				
6+30	10.9914	0.05		Q		V				

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 05/07/21 File: kx10prh2410.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Proposed Condition  
10-year 24-hour storm

-----  
Drainage Area = 91.50 (Ac.) = 0.143 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 91.50 (Ac.) = 0.143 Sq. Mi.  
Length along longest watercourse = 2880.00 (Ft.)  
Length along longest watercourse measured to centroid = 1560.00 (Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70 (Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.016  
Lag time = 0.071 Hr.  
Lag time = 4.26 Min.  
25% of lag time = 1.06 Min.  
40% of lag time = 1.70 Min.  
Unit time = 5.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00 (CFS)

2 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	2.25	205.88

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
91.50	5.87	537.11

STORM EVENT (YEAR) = 10.00  
Area Averaged 2-Year Rainfall = 2.250 (In)  
Area Averaged 100-Year Rainfall = 5.870 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 3.739(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 3.739(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
72.810	67.90	0.650
12.800	72.30	0.900
Total Area Entered = 91.50 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-2					
69.0	69.0	0.373	0.010	0.369	0.064	0.024
67.9	67.9	0.385	0.650	0.160	0.796	0.127
72.3	72.3	0.335	0.900	0.064	0.140	0.009
Sum (F) =						0.160

Area averaged mean soil loss (F) (In/Hr) = 0.160  
 Minimum soil loss rate ((In/Hr)) = 0.080  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.380

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	24.559
2	0.167	234.951	44.987
3	0.250	352.426	12.482
4	0.333	469.902	5.675
5	0.417	587.377	3.170
6	0.500	704.853	1.859
7	0.583	822.328	1.483
Sum = 100.000			Sum= 92.215

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.030	( 0.283)   0.011	0.019
2	0.17	0.030	( 0.282)   0.011	0.019
3	0.25	0.030	( 0.281)   0.011	0.019
4	0.33	0.045	( 0.280)   0.017	0.028
5	0.42	0.045	( 0.279)   0.017	0.028
6	0.50	0.045	( 0.278)   0.017	0.028
7	0.58	0.045	( 0.277)   0.017	0.028
8	0.67	0.045	( 0.276)   0.017	0.028
9	0.75	0.045	( 0.274)   0.017	0.028
10	0.83	0.060	( 0.273)   0.023	0.037
11	0.92	0.060	( 0.272)   0.023	0.037
12	1.00	0.060	( 0.271)   0.023	0.037
13	1.08	0.045	( 0.270)   0.017	0.028
14	1.17	0.045	( 0.269)   0.017	0.028

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	0.10	0.045	( 0.268)	0.017	0.028
16	1.33	0.10	0.045	( 0.267)	0.017	0.028
17	1.42	0.10	0.045	( 0.266)	0.017	0.028
18	1.50	0.10	0.045	( 0.265)	0.017	0.028
19	1.58	0.10	0.045	( 0.264)	0.017	0.028
20	1.67	0.10	0.045	( 0.263)	0.017	0.028
21	1.75	0.10	0.045	( 0.262)	0.017	0.028
22	1.83	0.13	0.060	( 0.261)	0.023	0.037
23	1.92	0.13	0.060	( 0.260)	0.023	0.037
24	2.00	0.13	0.060	( 0.258)	0.023	0.037
25	2.08	0.13	0.060	( 0.257)	0.023	0.037
26	2.17	0.13	0.060	( 0.256)	0.023	0.037
27	2.25	0.13	0.060	( 0.255)	0.023	0.037
28	2.33	0.13	0.060	( 0.254)	0.023	0.037
29	2.42	0.13	0.060	( 0.253)	0.023	0.037
30	2.50	0.13	0.060	( 0.252)	0.023	0.037
31	2.58	0.17	0.075	( 0.251)	0.028	0.046
32	2.67	0.17	0.075	( 0.250)	0.028	0.046
33	2.75	0.17	0.075	( 0.249)	0.028	0.046
34	2.83	0.17	0.075	( 0.248)	0.028	0.046
35	2.92	0.17	0.075	( 0.247)	0.028	0.046
36	3.00	0.17	0.075	( 0.246)	0.028	0.046
37	3.08	0.17	0.075	( 0.245)	0.028	0.046
38	3.17	0.17	0.075	( 0.244)	0.028	0.046
39	3.25	0.17	0.075	( 0.243)	0.028	0.046
40	3.33	0.17	0.075	( 0.242)	0.028	0.046
41	3.42	0.17	0.075	( 0.241)	0.028	0.046
42	3.50	0.17	0.075	( 0.240)	0.028	0.046
43	3.58	0.17	0.075	( 0.239)	0.028	0.046
44	3.67	0.17	0.075	( 0.238)	0.028	0.046
45	3.75	0.17	0.075	( 0.237)	0.028	0.046
46	3.83	0.20	0.090	( 0.236)	0.034	0.056
47	3.92	0.20	0.090	( 0.235)	0.034	0.056
48	4.00	0.20	0.090	( 0.234)	0.034	0.056
49	4.08	0.20	0.090	( 0.233)	0.034	0.056
50	4.17	0.20	0.090	( 0.232)	0.034	0.056
51	4.25	0.20	0.090	( 0.231)	0.034	0.056
52	4.33	0.23	0.105	( 0.230)	0.040	0.065
53	4.42	0.23	0.105	( 0.229)	0.040	0.065
54	4.50	0.23	0.105	( 0.228)	0.040	0.065
55	4.58	0.23	0.105	( 0.227)	0.040	0.065
56	4.67	0.23	0.105	( 0.226)	0.040	0.065
57	4.75	0.23	0.105	( 0.225)	0.040	0.065
58	4.83	0.27	0.120	( 0.224)	0.045	0.074
59	4.92	0.27	0.120	( 0.223)	0.045	0.074
60	5.00	0.27	0.120	( 0.222)	0.045	0.074
61	5.08	0.20	0.090	( 0.221)	0.034	0.056
62	5.17	0.20	0.090	( 0.220)	0.034	0.056
63	5.25	0.20	0.090	( 0.219)	0.034	0.056
64	5.33	0.23	0.105	( 0.218)	0.040	0.065
65	5.42	0.23	0.105	( 0.217)	0.040	0.065
66	5.50	0.23	0.105	( 0.216)	0.040	0.065
67	5.58	0.27	0.120	( 0.216)	0.045	0.074
68	5.67	0.27	0.120	( 0.215)	0.045	0.074
69	5.75	0.27	0.120	( 0.214)	0.045	0.074
70	5.83	0.27	0.120	( 0.213)	0.045	0.074
71	5.92	0.27	0.120	( 0.212)	0.045	0.074
72	6.00	0.27	0.120	( 0.211)	0.045	0.074
73	6.08	0.30	0.135	( 0.210)	0.051	0.083
74	6.17	0.30	0.135	( 0.209)	0.051	0.083
75	6.25	0.30	0.135	( 0.208)	0.051	0.083
76	6.33	0.30	0.135	( 0.207)	0.051	0.083
77	6.42	0.30	0.135	( 0.206)	0.051	0.083

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

78	6.50	0.30	0.135	( 0.205)	0.051	0.083
79	6.58	0.33	0.150	( 0.204)	0.057	0.093
80	6.67	0.33	0.150	( 0.203)	0.057	0.093
81	6.75	0.33	0.150	( 0.202)	0.057	0.093
82	6.83	0.33	0.150	( 0.202)	0.057	0.093
83	6.92	0.33	0.150	( 0.201)	0.057	0.093
84	7.00	0.33	0.150	( 0.200)	0.057	0.093
85	7.08	0.33	0.150	( 0.199)	0.057	0.093
86	7.17	0.33	0.150	( 0.198)	0.057	0.093
87	7.25	0.33	0.150	( 0.197)	0.057	0.093
88	7.33	0.37	0.164	( 0.196)	0.063	0.102
89	7.42	0.37	0.164	( 0.195)	0.063	0.102
90	7.50	0.37	0.164	( 0.194)	0.063	0.102
91	7.58	0.40	0.179	( 0.193)	0.068	0.111
92	7.67	0.40	0.179	( 0.193)	0.068	0.111
93	7.75	0.40	0.179	( 0.192)	0.068	0.111
94	7.83	0.43	0.194	( 0.191)	0.074	0.121
95	7.92	0.43	0.194	( 0.190)	0.074	0.121
96	8.00	0.43	0.194	( 0.189)	0.074	0.121
97	8.08	0.50	0.224	( 0.188)	0.085	0.139
98	8.17	0.50	0.224	( 0.187)	0.085	0.139
99	8.25	0.50	0.224	( 0.186)	0.085	0.139
100	8.33	0.50	0.224	( 0.186)	0.085	0.139
101	8.42	0.50	0.224	( 0.185)	0.085	0.139
102	8.50	0.50	0.224	( 0.184)	0.085	0.139
103	8.58	0.53	0.239	( 0.183)	0.091	0.148
104	8.67	0.53	0.239	( 0.182)	0.091	0.148
105	8.75	0.53	0.239	( 0.181)	0.091	0.148
106	8.83	0.57	0.254	( 0.180)	0.097	0.158
107	8.92	0.57	0.254	( 0.180)	0.097	0.158
108	9.00	0.57	0.254	( 0.179)	0.097	0.158
109	9.08	0.63	0.284	( 0.178)	0.108	0.176
110	9.17	0.63	0.284	( 0.177)	0.108	0.176
111	9.25	0.63	0.284	( 0.176)	0.108	0.176
112	9.33	0.67	0.299	( 0.175)	0.114	0.185
113	9.42	0.67	0.299	( 0.174)	0.114	0.185
114	9.50	0.67	0.299	( 0.174)	0.114	0.185
115	9.58	0.70	0.314	( 0.173)	0.119	0.195
116	9.67	0.70	0.314	( 0.172)	0.119	0.195
117	9.75	0.70	0.314	( 0.171)	0.119	0.195
118	9.83	0.73	0.329	( 0.170)	0.125	0.204
119	9.92	0.73	0.329	( 0.169)	0.125	0.204
120	10.00	0.73	0.329	( 0.169)	0.125	0.204
121	10.08	0.50	0.224	( 0.168)	0.085	0.139
122	10.17	0.50	0.224	( 0.167)	0.085	0.139
123	10.25	0.50	0.224	( 0.166)	0.085	0.139
124	10.33	0.50	0.224	( 0.165)	0.085	0.139
125	10.42	0.50	0.224	( 0.165)	0.085	0.139
126	10.50	0.50	0.224	( 0.164)	0.085	0.139
127	10.58	0.67	0.299	( 0.163)	0.114	0.185
128	10.67	0.67	0.299	( 0.162)	0.114	0.185
129	10.75	0.67	0.299	( 0.161)	0.114	0.185
130	10.83	0.67	0.299	( 0.161)	0.114	0.185
131	10.92	0.67	0.299	( 0.160)	0.114	0.185
132	11.00	0.67	0.299	( 0.159)	0.114	0.185
133	11.08	0.63	0.284	( 0.158)	0.108	0.176
134	11.17	0.63	0.284	( 0.157)	0.108	0.176
135	11.25	0.63	0.284	( 0.157)	0.108	0.176
136	11.33	0.63	0.284	( 0.156)	0.108	0.176
137	11.42	0.63	0.284	( 0.155)	0.108	0.176
138	11.50	0.63	0.284	( 0.154)	0.108	0.176
139	11.58	0.57	0.254	( 0.154)	0.097	0.158
140	11.67	0.57	0.254	( 0.153)	0.097	0.158

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

141	11.75	0.57	0.254	( 0.152)	0.097	0.158
142	11.83	0.60	0.269	( 0.151)	0.102	0.167
143	11.92	0.60	0.269	( 0.151)	0.102	0.167
144	12.00	0.60	0.269	( 0.150)	0.102	0.167
145	12.08	0.83	0.374	( 0.149)	0.142	0.232
146	12.17	0.83	0.374	( 0.148)	0.142	0.232
147	12.25	0.83	0.374	( 0.148)	0.142	0.232
148	12.33	0.87	0.389	0.147 ( 0.148)		0.242
149	12.42	0.87	0.389	0.146 ( 0.148)		0.243
150	12.50	0.87	0.389	0.145 ( 0.148)		0.243
151	12.58	0.93	0.419	0.145 ( 0.159)		0.274
152	12.67	0.93	0.419	0.144 ( 0.159)		0.275
153	12.75	0.93	0.419	0.143 ( 0.159)		0.276
154	12.83	0.97	0.434	0.142 ( 0.165)		0.291
155	12.92	0.97	0.434	0.142 ( 0.165)		0.292
156	13.00	0.97	0.434	0.141 ( 0.165)		0.293
157	13.08	1.13	0.508	0.140 ( 0.193)		0.368
158	13.17	1.13	0.508	0.140 ( 0.193)		0.369
159	13.25	1.13	0.508	0.139 ( 0.193)		0.370
160	13.33	1.13	0.508	0.138 ( 0.193)		0.370
161	13.42	1.13	0.508	0.137 ( 0.193)		0.371
162	13.50	1.13	0.508	0.137 ( 0.193)		0.372
163	13.58	0.77	0.344	( 0.136)	0.131	0.213
164	13.67	0.77	0.344	( 0.135)	0.131	0.213
165	13.75	0.77	0.344	( 0.135)	0.131	0.213
166	13.83	0.77	0.344	( 0.134)	0.131	0.213
167	13.92	0.77	0.344	( 0.133)	0.131	0.213
168	14.00	0.77	0.344	( 0.133)	0.131	0.213
169	14.08	0.90	0.404	0.132 ( 0.153)		0.272
170	14.17	0.90	0.404	0.131 ( 0.153)		0.272
171	14.25	0.90	0.404	0.131 ( 0.153)		0.273
172	14.33	0.87	0.389	0.130 ( 0.148)		0.259
173	14.42	0.87	0.389	0.129 ( 0.148)		0.260
174	14.50	0.87	0.389	0.129 ( 0.148)		0.260
175	14.58	0.87	0.389	0.128 ( 0.148)		0.261
176	14.67	0.87	0.389	0.127 ( 0.148)		0.261
177	14.75	0.87	0.389	0.127 ( 0.148)		0.262
178	14.83	0.83	0.374	0.126 ( 0.142)		0.248
179	14.92	0.83	0.374	0.125 ( 0.142)		0.248
180	15.00	0.83	0.374	0.125 ( 0.142)		0.249
181	15.08	0.80	0.359	0.124 ( 0.136)		0.235
182	15.17	0.80	0.359	0.123 ( 0.136)		0.235
183	15.25	0.80	0.359	0.123 ( 0.136)		0.236
184	15.33	0.77	0.344	0.122 ( 0.131)		0.222
185	15.42	0.77	0.344	0.122 ( 0.131)		0.222
186	15.50	0.77	0.344	0.121 ( 0.131)		0.223
187	15.58	0.63	0.284	( 0.120)	0.108	0.176
188	15.67	0.63	0.284	( 0.120)	0.108	0.176
189	15.75	0.63	0.284	( 0.119)	0.108	0.176
190	15.83	0.63	0.284	( 0.118)	0.108	0.176
191	15.92	0.63	0.284	( 0.118)	0.108	0.176
192	16.00	0.63	0.284	( 0.117)	0.108	0.176
193	16.08	0.13	0.060	( 0.117)	0.023	0.037
194	16.17	0.13	0.060	( 0.116)	0.023	0.037
195	16.25	0.13	0.060	( 0.115)	0.023	0.037
196	16.33	0.13	0.060	( 0.115)	0.023	0.037
197	16.42	0.13	0.060	( 0.114)	0.023	0.037
198	16.50	0.13	0.060	( 0.114)	0.023	0.037
199	16.58	0.10	0.045	( 0.113)	0.017	0.028
200	16.67	0.10	0.045	( 0.113)	0.017	0.028
201	16.75	0.10	0.045	( 0.112)	0.017	0.028
202	16.83	0.10	0.045	( 0.111)	0.017	0.028
203	16.92	0.10	0.045	( 0.111)	0.017	0.028

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

204	17.00	0.10	0.045	( 0.110)	0.017	0.028
205	17.08	0.17	0.075	( 0.110)	0.028	0.046
206	17.17	0.17	0.075	( 0.109)	0.028	0.046
207	17.25	0.17	0.075	( 0.109)	0.028	0.046
208	17.33	0.17	0.075	( 0.108)	0.028	0.046
209	17.42	0.17	0.075	( 0.108)	0.028	0.046
210	17.50	0.17	0.075	( 0.107)	0.028	0.046
211	17.58	0.17	0.075	( 0.107)	0.028	0.046
212	17.67	0.17	0.075	( 0.106)	0.028	0.046
213	17.75	0.17	0.075	( 0.105)	0.028	0.046
214	17.83	0.13	0.060	( 0.105)	0.023	0.037
215	17.92	0.13	0.060	( 0.104)	0.023	0.037
216	18.00	0.13	0.060	( 0.104)	0.023	0.037
217	18.08	0.13	0.060	( 0.103)	0.023	0.037
218	18.17	0.13	0.060	( 0.103)	0.023	0.037
219	18.25	0.13	0.060	( 0.102)	0.023	0.037
220	18.33	0.13	0.060	( 0.102)	0.023	0.037
221	18.42	0.13	0.060	( 0.101)	0.023	0.037
222	18.50	0.13	0.060	( 0.101)	0.023	0.037
223	18.58	0.10	0.045	( 0.100)	0.017	0.028
224	18.67	0.10	0.045	( 0.100)	0.017	0.028
225	18.75	0.10	0.045	( 0.099)	0.017	0.028
226	18.83	0.07	0.030	( 0.099)	0.011	0.019
227	18.92	0.07	0.030	( 0.098)	0.011	0.019
228	19.00	0.07	0.030	( 0.098)	0.011	0.019
229	19.08	0.10	0.045	( 0.098)	0.017	0.028
230	19.17	0.10	0.045	( 0.097)	0.017	0.028
231	19.25	0.10	0.045	( 0.097)	0.017	0.028
232	19.33	0.13	0.060	( 0.096)	0.023	0.037
233	19.42	0.13	0.060	( 0.096)	0.023	0.037
234	19.50	0.13	0.060	( 0.095)	0.023	0.037
235	19.58	0.10	0.045	( 0.095)	0.017	0.028
236	19.67	0.10	0.045	( 0.094)	0.017	0.028
237	19.75	0.10	0.045	( 0.094)	0.017	0.028
238	19.83	0.07	0.030	( 0.094)	0.011	0.019
239	19.92	0.07	0.030	( 0.093)	0.011	0.019
240	20.00	0.07	0.030	( 0.093)	0.011	0.019
241	20.08	0.10	0.045	( 0.092)	0.017	0.028
242	20.17	0.10	0.045	( 0.092)	0.017	0.028
243	20.25	0.10	0.045	( 0.092)	0.017	0.028
244	20.33	0.10	0.045	( 0.091)	0.017	0.028
245	20.42	0.10	0.045	( 0.091)	0.017	0.028
246	20.50	0.10	0.045	( 0.090)	0.017	0.028
247	20.58	0.10	0.045	( 0.090)	0.017	0.028
248	20.67	0.10	0.045	( 0.090)	0.017	0.028
249	20.75	0.10	0.045	( 0.089)	0.017	0.028
250	20.83	0.07	0.030	( 0.089)	0.011	0.019
251	20.92	0.07	0.030	( 0.089)	0.011	0.019
252	21.00	0.07	0.030	( 0.088)	0.011	0.019
253	21.08	0.10	0.045	( 0.088)	0.017	0.028
254	21.17	0.10	0.045	( 0.087)	0.017	0.028
255	21.25	0.10	0.045	( 0.087)	0.017	0.028
256	21.33	0.07	0.030	( 0.087)	0.011	0.019
257	21.42	0.07	0.030	( 0.086)	0.011	0.019
258	21.50	0.07	0.030	( 0.086)	0.011	0.019
259	21.58	0.10	0.045	( 0.086)	0.017	0.028
260	21.67	0.10	0.045	( 0.086)	0.017	0.028
261	21.75	0.10	0.045	( 0.085)	0.017	0.028
262	21.83	0.07	0.030	( 0.085)	0.011	0.019
263	21.92	0.07	0.030	( 0.085)	0.011	0.019
264	22.00	0.07	0.030	( 0.084)	0.011	0.019
265	22.08	0.10	0.045	( 0.084)	0.017	0.028
266	22.17	0.10	0.045	( 0.084)	0.017	0.028

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

267	22.25	0.10	0.045	( 0.084)	0.017	0.028
268	22.33	0.07	0.030	( 0.083)	0.011	0.019
269	22.42	0.07	0.030	( 0.083)	0.011	0.019
270	22.50	0.07	0.030	( 0.083)	0.011	0.019
271	22.58	0.07	0.030	( 0.083)	0.011	0.019
272	22.67	0.07	0.030	( 0.082)	0.011	0.019
273	22.75	0.07	0.030	( 0.082)	0.011	0.019
274	22.83	0.07	0.030	( 0.082)	0.011	0.019
275	22.92	0.07	0.030	( 0.082)	0.011	0.019
276	23.00	0.07	0.030	( 0.081)	0.011	0.019
277	23.08	0.07	0.030	( 0.081)	0.011	0.019
278	23.17	0.07	0.030	( 0.081)	0.011	0.019
279	23.25	0.07	0.030	( 0.081)	0.011	0.019
280	23.33	0.07	0.030	( 0.081)	0.011	0.019
281	23.42	0.07	0.030	( 0.081)	0.011	0.019
282	23.50	0.07	0.030	( 0.080)	0.011	0.019
283	23.58	0.07	0.030	( 0.080)	0.011	0.019
284	23.67	0.07	0.030	( 0.080)	0.011	0.019
285	23.75	0.07	0.030	( 0.080)	0.011	0.019
286	23.83	0.07	0.030	( 0.080)	0.011	0.019
287	23.92	0.07	0.030	( 0.080)	0.011	0.019
288	24.00	0.07	0.030	( 0.080)	0.011	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.6

Flood volume = Effective rainfall 2.38 (In)  
times area 91.5 (Ac.) / [(In) / (Ft.)] = 18.1 (Ac.Ft)

Total soil loss = 1.36 (In)  
Total soil loss = 10.358 (Ac.Ft)

Total rainfall = 3.74 (In)  
Flood volume = 790559.6 Cubic Feet  
Total soil loss = 451207.4 Cubic Feet

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Peak flow rate of this hydrograph = 34.096 (CFS)  
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+++++  
24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h  
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Hydrograph in 5 Minute intervals ((CFS))  
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0029	0.42	Q				
0+10	0.0115	1.25	VQ				
0+15	0.0217	1.48	VQ				
0+20	0.0341	1.80	VQ				
0+25	0.0498	2.28	V Q				
0+30	0.0665	2.43	V Q				
0+35	0.0838	2.51	V Q				
0+40	0.1012	2.54	V Q				
0+45	0.1188	2.55	V Q				
0+50	0.1379	2.78	V Q				
0+55	0.1599	3.19	V Q				
1+ 0	0.1827	3.31	V Q				
1+ 5	0.2044	3.15	V Q				
1+10	0.2234	2.76	V Q				
1+15	0.2418	2.67	V Q				
1+20	0.2599	2.63	V Q				
1+25	0.2778	2.60	V Q				
1+30	0.2956	2.58	V Q				
1+35	0.3132	2.57	V Q				
1+40	0.3309	2.57	V Q				



**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

1+45	0.3486	2.57	V Q				
1+50	0.3677	2.78	V Q				
1+55	0.3897	3.19	V Q				
2+ 0	0.4125	3.31	V Q				
2+ 5	0.4356	3.36	V Q				
2+10	0.4590	3.39	V Q				
2+15	0.4824	3.41	V Q				
2+20	0.5060	3.42	V Q				
2+25	0.5296	3.42	V Q				
2+30	0.5531	3.42	V Q				
2+35	0.5781	3.63	V Q				
2+40	0.6060	4.05	V Q				
2+45	0.6347	4.16	V Q				
2+50	0.6637	4.22	V Q				
2+55	0.6930	4.25	V Q				
3+ 0	0.7224	4.26	V Q				
3+ 5	0.7518	4.28	V Q				
3+10	0.7813	4.28	V Q				
3+15	0.8107	4.28	V Q				
3+20	0.8402	4.28	V Q				
3+25	0.8696	4.28	V Q				
3+30	0.8991	4.28	V Q				
3+35	0.9286	4.28	V Q				
3+40	0.9580	4.28	V Q				
3+45	0.9875	4.28	V Q				
3+50	1.0184	4.49	V Q				
3+55	1.0521	4.90	V Q				
4+ 0	1.0867	5.02	V Q				
4+ 5	1.1216	5.07	V Q				
4+10	1.1568	5.10	V Q				
4+15	1.1920	5.12	V Q				
4+20	1.2288	5.34	V Q				
4+25	1.2685	5.76	V Q				
4+30	1.3089	5.88	V Q				
4+35	1.3498	5.93	V Q				
4+40	1.3908	5.96	V Q				
4+45	1.4319	5.97	V Q				
4+50	1.4746	6.20	V Q				
4+55	1.5202	6.61	V Q				
5+ 0	1.5665	6.73	V Q				
5+ 5	1.6104	6.36	V Q				
5+10	1.6487	5.56	V Q				
5+15	1.6855	5.34	V Q				
5+20	1.7231	5.46	V Q				
5+25	1.7632	5.82	V Q				
5+30	1.8038	5.90	V Q				
5+35	1.8461	6.14	V Q				
5+40	1.8914	6.58	V Q				
5+45	1.9377	6.72	V Q				
5+50	1.9844	6.78	V Q				
5+55	2.0313	6.81	V Q				
6+ 0	2.0784	6.83	V Q				
6+ 5	2.1269	7.05	V Q				
6+10	2.1784	7.47	V Q				
6+15	2.2306	7.59	V Q				
6+20	2.2832	7.64	V Q				
6+25	2.3360	7.67	V Q				
6+30	2.3890	7.69	V Q				
6+35	2.4434	7.91	V Q				
6+40	2.5008	8.33	V Q				
6+45	2.5589	8.44	V Q				
6+50	2.6174	8.49	V Q				
6+55	2.6761	8.52	V Q				

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

7+ 0	2.7349	8.54	V Q				
7+ 5	2.7938	8.55	V Q				
7+10	2.8528	8.55	V Q				
7+15	2.9117	8.55	V Q				
7+20	2.9720	8.76	V Q				
7+25	3.0353	9.18	V Q				
7+30	3.0993	9.30	V Q				
7+35	3.1651	9.56	V Q				
7+40	3.2340	10.01	V Q				
7+45	3.3039	10.14	V Q				
7+50	3.3756	10.41	V Q				
7+55	3.4504	10.86	V Q				
8+ 0	3.5261	10.99	V Q				
8+ 5	3.6051	11.48	V  Q				
8+10	3.6902	12.34	V   Q				
8+15	3.7769	12.59	V   Q				
8+20	3.8644	12.71	V   Q				
8+25	3.9524	12.77	V   Q				
8+30	4.0405	12.80	V   Q				
8+35	4.1304	13.04	V  Q				
8+40	4.2230	13.46	V  Q				
8+45	4.3165	13.57	V  Q				
8+50	4.4118	13.84	V  Q				
8+55	4.5102	14.28	V  Q				
9+ 0	4.6095	14.42	V Q				
9+ 5	4.7121	14.90	V Q				
9+10	4.8207	15.76	V Q				
9+15	4.9309	16.01	V Q				
9+20	5.0435	16.34	V Q				
9+25	5.1593	16.82	V Q				
9+30	5.2762	16.97	V Q				
9+35	5.3950	17.26	V Q				
9+40	5.5170	17.70	V Q				
9+45	5.6398	17.84	V Q				
9+50	5.7645	18.11	V Q				
9+55	5.8924	18.56	V Q				
10+ 0	6.0211	18.69	V Q				
10+ 5	6.1402	17.29	V Q				
10+10	6.2394	14.40	VQ				
10+15	6.3331	13.61	Q				
10+20	6.4244	13.25	QV				
10+25	6.5143	13.05	QV				
10+30	6.6033	12.93	Q V				
10+35	6.6989	13.88	QV				
10+40	6.8088	15.96	Q				
10+45	6.9228	16.54	VQ				
10+50	7.0385	16.81	VQ				
10+55	7.1553	16.95	VQ				
11+ 0	7.2727	17.04	VQ				
11+ 5	7.3890	16.90	Q				
11+10	7.5026	16.48	Q				
11+15	7.6153	16.37	Q				
11+20	7.7276	16.31	QV				
11+25	7.8398	16.28	QV				
11+30	7.9518	16.27	QV				
11+35	8.0609	15.83	Q V				
11+40	8.1642	15.00	Q V				
11+45	8.2659	14.77	Q V				
11+50	8.3683	14.87	Q V				
11+55	8.4732	15.23	Q V				
12+ 0	8.5787	15.31	Q V				
12+ 5	8.6944	16.80	Q V				
12+10	8.8304	19.75	Q				

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

12+15	8.9722	20.58			VQ		
12+20	9.1181	21.19			VQ		
12+25	9.2688	21.87			VQ		
12+30	9.4214	22.17			V Q		
12+35	9.5802	23.06			V Q		
12+40	9.7490	24.50			V Q		
12+45	9.9208	24.96			V Q		
12+50	10.0968	25.54			V Q		
12+55	10.2784	26.38			V Q		
13+ 0	10.4622	26.69			V Q		
13+ 5	10.6590	28.57			V Q		
13+10	10.8797	32.05			V	Q	
13+15	11.1076	33.08			V	Q	
13+20	11.3389	33.59			V	Q	
13+25	11.5723	33.89			V	Q	
13+30	11.8071	34.10			V	Q	
13+35	12.0184	30.68			V Q		
13+40	12.1807	23.57			Q V		
13+45	12.3295	21.60			Q V		
13+50	12.4721	20.70			Q V		
13+55	12.6112	20.20			Q V		
14+ 0	12.7483	19.91			Q  V		
14+ 5	12.8929	21.00			Q V		
14+10	13.0558	23.65			Q V		
14+15	13.2240	24.42			Q Q V		
14+20	13.3925	24.47			Q Q V		
14+25	13.5581	24.04			Q Q V		
14+30	13.7235	24.02			Q Q V		
14+35	13.8894	24.08			Q Q V		
14+40	14.0554	24.10			Q Q V		
14+45	14.2216	24.13			Q Q  V		
14+50	14.3857	23.83			Q Q  V		
14+55	14.5456	23.22			Q Q  V		
15+ 0	14.7046	23.09			Q Q  V		
15+ 5	14.8611	22.73			Q Q  V		
15+10	15.0131	22.07			Q Q  V		
15+15	15.1640	21.91			Q Q  V		
15+20	15.3122	21.52			Q Q  V		
15+25	15.4559	20.86			Q Q  V		
15+30	15.5985	20.71			Q Q  V		
15+35	15.7334	19.58			Q  Q  V		
15+40	15.8535	17.44			Q Q  V		
15+45	15.9695	16.84			Q Q  V		
15+50	16.0835	16.56			Q Q  V		
15+55	16.1965	16.41			Q Q  V		
16+ 0	16.3090	16.32			Q Q  V		
16+ 5	16.3993	13.11		Q	Q Q  V		
16+10	16.4465	6.85			Q Q  V		
16+15	16.4817	5.12			Q Q  V		
16+20	16.5115	4.33			Q Q  V		
16+25	16.5383	3.89			Q Q  V		
16+30	16.5633	3.63			Q Q  V		
16+35	16.5854	3.21			Q Q  V		
16+40	16.6047	2.80			Q Q  V		
16+45	16.6231	2.68			Q Q  V		
16+50	16.6412	2.63			Q Q  V		
16+55	16.6591	2.60			Q Q  V		
17+ 0	16.6769	2.58			Q Q  V		
17+ 5	16.6974	2.98			Q Q  V		
17+10	16.7237	3.82			Q Q  V		
17+15	16.7516	4.05			Q Q  V		
17+20	16.7803	4.16			Q Q  V		
17+25	16.8093	4.22			Q Q  V		

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

17+30	16.8385	4.25	Q				V	
17+35	16.8680	4.28	Q				V	
17+40	16.8975	4.28	Q				V	
17+45	16.9269	4.28	Q				V	
17+50	16.9549	4.07	Q				V	
17+55	16.9801	3.65	Q				V	
18+ 0	17.0044	3.53	Q				V	
18+ 5	17.0284	3.48	Q				V	
18+10	17.0522	3.45	Q				V	
18+15	17.0758	3.44	Q				V	
18+20	17.0994	3.42	Q				V	
18+25	17.1230	3.42	Q				V	
18+30	17.1465	3.42	Q				V	
18+35	17.1687	3.21	Q				V	
18+40	17.1879	2.80	Q				V	
18+45	17.2064	2.68	Q				V	
18+50	17.2230	2.42	Q				V	
18+55	17.2366	1.97	Q				V	
19+ 0	17.2492	1.84	Q				V	
19+ 5	17.2629	1.98	Q				V	
19+10	17.2792	2.37	Q				V	
19+15	17.2962	2.47	Q				V	
19+20	17.3149	2.72	Q				V	
19+25	17.3367	3.16	Q				V	
19+30	17.3594	3.29	Q				V	
19+35	17.3811	3.15	Q				V	
19+40	17.4001	2.76	Q				V	
19+45	17.4185	2.67	Q				V	
19+50	17.4351	2.42	Q				V	
19+55	17.4487	1.97	Q				V	
20+ 0	17.4613	1.84	Q				V	
20+ 5	17.4750	1.98	Q				V	
20+10	17.4913	2.37	Q				V	
20+15	17.5083	2.47	Q				V	
20+20	17.5255	2.51	Q				V	
20+25	17.5430	2.54	Q				V	
20+30	17.5606	2.55	Q				V	
20+35	17.5783	2.57	Q				V	
20+40	17.5959	2.57	Q				V	
20+45	17.6136	2.57	Q				V	
20+50	17.6298	2.36	Q				V	
20+55	17.6432	1.94	Q				V	
21+ 0	17.6558	1.82	Q				V	
21+ 5	17.6694	1.98	Q				V	
21+10	17.6857	2.37	Q				V	
21+15	17.7027	2.47	Q				V	
21+20	17.7185	2.30	Q				V	
21+25	17.7317	1.91	Q				V	
21+30	17.7441	1.81	Q				V	
21+35	17.7578	1.98	Q				V	
21+40	17.7741	2.37	Q				V	
21+45	17.7911	2.47	Q				V	
21+50	17.8069	2.30	Q				V	
21+55	17.8200	1.91	Q				V	
22+ 0	17.8325	1.81	Q				V	
22+ 5	17.8461	1.98	Q				V	
22+10	17.8625	2.37	Q				V	
22+15	17.8794	2.47	Q				V	
22+20	17.8953	2.30	Q				V	
22+25	17.9084	1.91	Q				V	
22+30	17.9209	1.81	Q				V	
22+35	17.9331	1.77	Q				V	
22+40	17.9451	1.74	Q				V	

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

22+45	17.9569	1.72	Q				V
22+50	17.9687	1.71	Q				V
22+55	17.9805	1.71	Q				V
23+ 0	17.9923	1.71	Q				V
23+ 5	18.0041	1.71	Q				V
23+10	18.0159	1.71	Q				V
23+15	18.0276	1.71	Q				V
23+20	18.0394	1.71	Q				V
23+25	18.0512	1.71	Q				V
23+30	18.0630	1.71	Q				V
23+35	18.0748	1.71	Q				V
23+40	18.0866	1.71	Q				V
23+45	18.0983	1.71	Q				V
23+50	18.1101	1.71	Q				V
23+55	18.1219	1.71	Q				V
24+ 0	18.1337	1.71	Q				V
24+ 5	18.1426	1.29	Q				V
24+10	18.1457	0.46	Q				V
24+15	18.1473	0.23	Q				V
24+20	18.1481	0.12	Q				V
24+25	18.1486	0.06	Q				V
24+30	18.1488	0.03	Q				V

---

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 100-year 1-hour storm

-----  
 Drainage Area = 88.24(Ac.) = 0.138 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 88.24(Ac.) = 0.138 Sq. Mi.  
 Length along longest watercourse = 2880.00(Ft.)  
 Length along longest watercourse measured to centroid = 1560.00(Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70(Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 1 Hour(s)  
 User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	0.53	46.59

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	1.59	140.30

STORM EVENT (YEAR) = 100.00  
 Area Averaged 2-Year Rainfall = 0.528(In)  
 Area Averaged 100-Year Rainfall = 1.590(In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 1.590(In)  
 Areal adjustment factor = 99.92 %  
 Adjusted average point rain = 1.589(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
70.750	69.00	0.650
11.600	69.00	0.900
Total Area Entered =		88.24 (Ac.)

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-3					
69.0	84.4	0.194	0.010	0.192	0.067	0.013
69.0	84.4	0.194	0.650	0.080	0.802	0.064
69.0	84.4	0.194	0.900	0.037	0.131	0.005
Sum (F) =						0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082  
 Minimum soil loss rate ((In/Hr)) = 0.041  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.390

-----  
 Slope of intensity-duration curve for a 1 hour storm =0.4800  
 -----

### Unit Hydrograph VALLEY S-Curve

#### Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	21.755
2	0.167	234.951	43.384
3	0.250	352.426	12.037
4	0.333	469.902	5.473
5	0.417	587.377	3.057
6	0.500	704.853	1.793
7	0.583	822.328	1.430
Sum =		100.000	Sum= 88.929

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	4.40	0.839   ( 0.327)	0.757
2	0.17	4.50	0.858   ( 0.335)	0.776
3	0.25	5.40	1.029   ( 0.402)	0.947
4	0.33	5.40	1.029   ( 0.402)	0.947
5	0.42	5.70	1.087   ( 0.424)	1.005
6	0.50	6.40	1.220   ( 0.476)	1.138
7	0.58	7.90	1.506   ( 0.587)	1.424
8	0.67	9.10	1.735   ( 0.677)	1.653
9	0.75	12.80	2.440   ( 0.952)	2.358
10	0.83	25.60	4.881   ( 1.903)	4.798
11	0.92	7.90	1.506   ( 0.587)	1.424
12	1.00	4.90	0.934   ( 0.364)	0.852

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.1

Flood volume = Effective rainfall 1.51 (In)

times area 88.2 (Ac.) / [(In) / (Ft.)] = 11.1 (Ac.Ft)

Total soil loss = 0.08 (In)

Total soil loss = 0.604 (Ac.Ft)

Total rainfall = 1.59 (In)

Flood volume = 482569.9 Cubic Feet

Total soil loss = 26317.7 Cubic Feet

Peak flow rate of this hydrograph = 284.561 (CFS)

+++++  
 1 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time (h+m)	Volume Ac.Ft	Q (CFS)	0	75.0	150.0	225.0	300.0	
0+ 5	0.1134	16.47	V Q					
0+10	0.4559	49.73	V Q					
0+15	0.8926	63.41	V Q					
0+20	1.4107	75.23	V Q					
0+25	1.9682	80.96	V Q					
0+30	2.5791	88.70	V Q					
0+35	3.2888	103.05	V Q					
0+40	4.1338	122.70	V Q					
0+45	5.1846	152.57	V Q					
0+50	6.8454	241.14	V		Q			
0+55	8.8052	284.56	V			Q		
1+ 0	9.9091	160.29	V	Q				
1+ 5	10.5470	92.62	V	Q				
1+10	10.8178	39.33	Q				V	
1+15	10.9625	21.00	Q				V	
1+20	11.0453	12.03	Q				V	
1+25	11.0699	3.57	Q				V	
1+30	11.0783	1.22	Q				V	



# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Proposed Condition  
100-year 3-hour storm

-----  
Drainage Area = 88.24(Ac.) = 0.138 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 88.24(Ac.) = 0.138 Sq. Mi.  
Length along longest watercourse = 2880.00(Ft.)  
Length along longest watercourse measured to centroid = 1560.00(Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70(Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.016  
Lag time = 0.071 Hr.  
Lag time = 4.26 Min.  
25% of lag time = 1.06 Min.  
40% of lag time = 1.70 Min.  
Unit time = 5.00 Min.  
Duration of storm = 3 Hour(s)  
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	0.91	80.39

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	2.33	205.60

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 0.911(In)  
Area Averaged 100-Year Rainfall = 2.330(In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 2.330(In)  
 Areal adjustment factor = 99.96 %  
 Adjusted average point rain = 2.329(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
70.750	69.00	0.650
11.600	69.00	0.900
Total Area Entered =		88.24(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.0	84.4	0.194	0.010	0.192	0.067	0.013
69.0	84.4	0.194	0.650	0.080	0.802	0.064
69.0	84.4	0.194	0.900	0.037	0.131	0.005
						Sum (F) = 0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082  
 Minimum soil loss rate ((In/Hr)) = 0.041  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.390

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	21.755
2	0.167	234.951	43.384
3	0.250	352.426	12.037
4	0.333	469.902	5.473
5	0.417	587.377	3.057
6	0.500	704.853	1.793
7	0.583	822.328	1.430
		Sum = 100.000	Sum= 88.929

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max   Low	Effective (In/Hr)
1	0.08	1.30	0.363 ( 0.142)	0.281
2	0.17	1.30	0.363 ( 0.142)	0.281
3	0.25	1.10	0.307 ( 0.120)	0.225
4	0.33	1.50	0.419 ( 0.164)	0.337
5	0.42	1.50	0.419 ( 0.164)	0.337
6	0.50	1.80	0.503 ( 0.196)	0.421
7	0.58	1.50	0.419 ( 0.164)	0.337
8	0.67	1.80	0.503 ( 0.196)	0.421
9	0.75	1.80	0.503 ( 0.196)	0.421
10	0.83	1.50	0.419 ( 0.164)	0.337
11	0.92	1.60	0.447 ( 0.174)	0.365
12	1.00	1.80	0.503 ( 0.196)	0.421
13	1.08	2.20	0.615 ( 0.240)	0.533
14	1.17	2.20	0.615 ( 0.240)	0.533

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	2.20	0.615	0.082	( 0.240)	0.533
16	1.33	2.00	0.559	0.082	( 0.218)	0.477
17	1.42	2.60	0.727	0.082	( 0.283)	0.645
18	1.50	2.70	0.755	0.082	( 0.294)	0.672
19	1.58	2.40	0.671	0.082	( 0.262)	0.589
20	1.67	2.70	0.755	0.082	( 0.294)	0.672
21	1.75	3.30	0.922	0.082	( 0.360)	0.840
22	1.83	3.10	0.866	0.082	( 0.338)	0.784
23	1.92	2.90	0.811	0.082	( 0.316)	0.728
24	2.00	3.00	0.838	0.082	( 0.327)	0.756
25	2.08	3.10	0.866	0.082	( 0.338)	0.784
26	2.17	4.20	1.174	0.082	( 0.458)	1.092
27	2.25	5.00	1.397	0.082	( 0.545)	1.315
28	2.33	3.50	0.978	0.082	( 0.382)	0.896
29	2.42	6.80	1.901	0.082	( 0.741)	1.818
30	2.50	7.30	2.040	0.082	( 0.796)	1.958
31	2.58	8.20	2.292	0.082	( 0.894)	2.210
32	2.67	5.90	1.649	0.082	( 0.643)	1.567
33	2.75	2.00	0.559	0.082	( 0.218)	0.477
34	2.83	1.80	0.503	0.082	( 0.196)	0.421
35	2.92	1.80	0.503	0.082	( 0.196)	0.421
36	3.00	0.60	0.168	( 0.082)	0.065	0.102

(Loss Rate Not Used)  
Sum = 100.0 Sum = 25.0  
Flood volume = Effective rainfall 2.08(In)  
times area 88.2(Ac.)/[ (In)/(Ft.) ] = 15.3(Ac.Ft)  
Total soil loss = 0.25(In)  
Total soil loss = 1.802(Ac.Ft)  
Total rainfall = 2.33(In)  
Flood volume = 667531.3 Cubic Feet  
Total soil loss = 78505.6 Cubic Feet

-----  
Peak flow rate of this hydrograph = 170.221(CFS)  
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3 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

-----  
Hydrograph in 5 Minute intervals ((CFS))  
-----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0421	6.12	VQ				
0+10	0.1684	18.33	V Q				
0+15	0.3095	20.49	V Q				
0+20	0.4613	22.04	V Q				
0+25	0.6478	27.08	V Q				
0+30	0.8575	30.45	V Q				
0+35	1.0855	33.11	V Q				
0+40	1.3097	32.55	V Q				
0+45	1.5559	35.76	V Q				
0+50	1.7963	34.90	V Q				
0+55	2.0182	32.22	VQ				
1+ 0	2.2514	33.87	VQ				
1+ 5	2.5175	38.63	VQ				
1+10	2.8217	44.18	VQ				
1+15	3.1369	45.76	VQ				
1+20	3.4486	45.26	Q				
1+25	3.7720	46.97	Q				
1+30	4.1471	54.46	Q				
1+35	4.5309	55.72	Q				
1+40	4.9096	54.99	Q V				

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

1+45	5.3355	61.84			QV				
1+50	5.8090	68.76			Q V				
1+55	6.2747	67.63			Q V				
2+ 0	6.7306	66.20			Q V				
2+ 5	7.1961	67.58			Q V				
2+10	7.7179	75.77			Q V				
2+15	8.3683	94.44			Q V				
2+20	9.0487	98.78			Q V				
2+25	9.7724	105.09			Q V				
2+30	10.7736	145.37			Q V				
2+35	11.9238	167.00			Q V				
2+40	13.0961	170.22			Q V				
2+45	13.9554	124.77			Q V				
2+50	14.4469	71.36			Q V				
2+55	14.8231	54.63			Q V				
3+ 0	15.0968	39.74		Q					V
3+ 5	15.2293	19.25		Q					V
3+10	15.2839	7.92		Q					V
3+15	15.3065	3.28		Q					V
3+20	15.3180	1.67		Q					V
3+25	15.3234	0.79		Q					V
3+30	15.3244	0.15		Q					V

---

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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Study date 04/16/21 File: kxpr6100.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
Keller Crossing, Drainage Area C = 91.5 Ac  
Hydrology Proposed Condition  
100-year 6-hour storm

-----  
Drainage Area = 88.24(Ac.) = 0.138 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 88.24(Ac.) = 0.138 Sq. Mi.  
Length along longest watercourse = 2880.00(Ft.)  
Length along longest watercourse measured to centroid = 1560.00(Ft.)  
Length along longest watercourse = 0.545 Mi.  
Length along longest watercourse measured to centroid = 0.295 Mi.  
Difference in elevation = 102.70(Ft.)  
Slope along watercourse = 188.2833 Ft./Mi.  
Average Manning's 'N' = 0.016  
Lag time = 0.071 Hr.  
Lag time = 4.26 Min.  
25% of lag time = 1.06 Min.  
40% of lag time = 1.70 Min.  
Unit time = 5.00 Min.  
Duration of storm = 6 Hour(s)  
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	1.29	113.83

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	3.17	279.72

STORM EVENT (YEAR) = 100.00  
Area Averaged 2-Year Rainfall = 1.290 (In)  
Area Averaged 100-Year Rainfall = 3.170 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 3.170(In)  
 Areal adjustment factor = 99.97 %  
 Adjusted average point rain = 3.169(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
70.750	69.00	0.650
11.600	69.00	0.900
Total Area Entered = 88.24 (Ac.)		

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-3					
69.0	84.4	0.194	0.010	0.192	0.067	0.013
69.0	84.4	0.194	0.650	0.080	0.802	0.064
69.0	84.4	0.194	0.900	0.037	0.131	0.005
Sum (F) =						0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082  
 Minimum soil loss rate ((In/Hr)) = 0.041  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.390

Unit Hydrograph  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	21.755
2	0.167	234.951	43.384
3	0.250	352.426	12.037
4	0.333	469.902	5.473
5	0.417	587.377	3.057
6	0.500	704.853	1.793
7	0.583	822.328	1.430
		Sum = 100.000	Sum= 88.929

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.190	( 0.082)   0.074	0.116
2	0.17	0.228	0.082   ( 0.089)	0.146
3	0.25	0.228	0.082   ( 0.089)	0.146
4	0.33	0.228	0.082   ( 0.089)	0.146
5	0.42	0.228	0.082   ( 0.089)	0.146
6	0.50	0.266	0.082   ( 0.104)	0.184
7	0.58	0.266	0.082   ( 0.104)	0.184
8	0.67	0.266	0.082   ( 0.104)	0.184
9	0.75	0.266	0.082   ( 0.104)	0.184
10	0.83	0.266	0.082   ( 0.104)	0.184
11	0.92	0.266	0.082   ( 0.104)	0.184
12	1.00	0.304	0.082   ( 0.119)	0.222
13	1.08	0.304	0.082   ( 0.119)	0.222
14	1.17	0.304	0.082   ( 0.119)	0.222

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	0.80	0.304	0.082	( 0.119)	0.222
16	1.33	0.80	0.304	0.082	( 0.119)	0.222
17	1.42	0.80	0.304	0.082	( 0.119)	0.222
18	1.50	0.80	0.304	0.082	( 0.119)	0.222
19	1.58	0.80	0.304	0.082	( 0.119)	0.222
20	1.67	0.80	0.304	0.082	( 0.119)	0.222
21	1.75	0.80	0.304	0.082	( 0.119)	0.222
22	1.83	0.80	0.304	0.082	( 0.119)	0.222
23	1.92	0.80	0.304	0.082	( 0.119)	0.222
24	2.00	0.90	0.342	0.082	( 0.133)	0.260
25	2.08	0.80	0.304	0.082	( 0.119)	0.222
26	2.17	0.90	0.342	0.082	( 0.133)	0.260
27	2.25	0.90	0.342	0.082	( 0.133)	0.260
28	2.33	0.90	0.342	0.082	( 0.133)	0.260
29	2.42	0.90	0.342	0.082	( 0.133)	0.260
30	2.50	0.90	0.342	0.082	( 0.133)	0.260
31	2.58	0.90	0.342	0.082	( 0.133)	0.260
32	2.67	0.90	0.342	0.082	( 0.133)	0.260
33	2.75	1.00	0.380	0.082	( 0.148)	0.298
34	2.83	1.00	0.380	0.082	( 0.148)	0.298
35	2.92	1.00	0.380	0.082	( 0.148)	0.298
36	3.00	1.00	0.380	0.082	( 0.148)	0.298
37	3.08	1.00	0.380	0.082	( 0.148)	0.298
38	3.17	1.10	0.418	0.082	( 0.163)	0.336
39	3.25	1.10	0.418	0.082	( 0.163)	0.336
40	3.33	1.10	0.418	0.082	( 0.163)	0.336
41	3.42	1.20	0.456	0.082	( 0.178)	0.374
42	3.50	1.30	0.494	0.082	( 0.193)	0.412
43	3.58	1.40	0.532	0.082	( 0.208)	0.450
44	3.67	1.40	0.532	0.082	( 0.208)	0.450
45	3.75	1.50	0.570	0.082	( 0.222)	0.488
46	3.83	1.50	0.570	0.082	( 0.222)	0.488
47	3.92	1.60	0.608	0.082	( 0.237)	0.526
48	4.00	1.60	0.608	0.082	( 0.237)	0.526
49	4.08	1.70	0.646	0.082	( 0.252)	0.564
50	4.17	1.80	0.685	0.082	( 0.267)	0.602
51	4.25	1.90	0.723	0.082	( 0.282)	0.640
52	4.33	2.00	0.761	0.082	( 0.297)	0.678
53	4.42	2.10	0.799	0.082	( 0.311)	0.716
54	4.50	2.10	0.799	0.082	( 0.311)	0.716
55	4.58	2.20	0.837	0.082	( 0.326)	0.754
56	4.67	2.30	0.875	0.082	( 0.341)	0.792
57	4.75	2.40	0.913	0.082	( 0.356)	0.831
58	4.83	2.40	0.913	0.082	( 0.356)	0.831
59	4.92	2.50	0.951	0.082	( 0.371)	0.869
60	5.00	2.60	0.989	0.082	( 0.386)	0.907
61	5.08	3.10	1.179	0.082	( 0.460)	1.097
62	5.17	3.60	1.369	0.082	( 0.534)	1.287
63	5.25	3.90	1.483	0.082	( 0.578)	1.401
64	5.33	4.20	1.597	0.082	( 0.623)	1.515
65	5.42	4.70	1.787	0.082	( 0.697)	1.705
66	5.50	5.60	2.130	0.082	( 0.831)	2.047
67	5.58	1.90	0.723	0.082	( 0.282)	0.640
68	5.67	0.90	0.342	0.082	( 0.133)	0.260
69	5.75	0.60	0.228	0.082	( 0.089)	0.146
70	5.83	0.50	0.190	( 0.082)	0.074	0.116
71	5.92	0.30	0.114	( 0.082)	0.044	0.070
72	6.00	0.20	0.076	( 0.082)	0.030	0.046

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.2

Flood volume = Effective rainfall 2.68 (In)

times area 88.2 (Ac.) / [(In) / (Ft.)] = 19.7 (Ac.Ft)

Total soil loss = 0.48 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Total soil loss = 3.560 (Ac.Ft)  
 Total rainfall = 3.17 (In)  
 Flood volume = 860006.8 Cubic Feet  
 Total soil loss = 155071.7 Cubic Feet

-----  
 Peak flow rate of this hydrograph = 151.699 (CFS)  
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6 - H O U R S T O R M  
 R u n o f f H y d r o g r a p h

-----  
 Hydrograph in 5 Minute intervals ((CFS))  
 -----

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	50.0	100.0	150.0	200.0
0+ 5	0.0174	2.52	Q				
0+10	0.0739	8.21	VQ				
0+15	0.1491	10.91	V Q				
0+20	0.2311	11.91	V Q				
0+25	0.3167	12.43	V Q				
0+30	0.4101	13.56	V Q				
0+35	0.5163	15.43	V Q				
0+40	0.6260	15.93	V Q				
0+45	0.7371	16.14	V Q				
0+50	0.8491	16.25	V Q				
0+55	0.9615	16.32	V Q				
1+ 0	1.0799	17.20	VQ				
1+ 5	1.2098	18.85	VQ				
1+10	1.3428	19.31	VQ				
1+15	1.4772	19.52	VQ				
1+20	1.6124	19.64	Q				
1+25	1.7482	19.70	Q				
1+30	1.8842	19.76	Q				
1+35	2.0203	19.76	QV				
1+40	2.1564	19.76	QV				
1+45	2.2925	19.76	QV				
1+50	2.4285	19.76	QV				
1+55	2.5646	19.76	Q V				
2+ 0	2.7064	20.59	QV				
2+ 5	2.8538	21.41	QV				
2+10	2.9988	21.04	Q V				
2+15	3.1533	22.44	Q V				
2+20	3.3104	22.81	Q V				
2+25	3.4686	22.97	Q V				
2+30	3.6276	23.07	Q V				
2+35	3.7866	23.09	Q V				
2+40	3.9459	23.14	Q V				
2+45	4.1110	23.97	Q V				
2+50	4.2875	25.62	Q V				
2+55	4.4671	26.08	Q V				
3+ 0	4.6481	26.29	Q V				
3+ 5	4.8299	26.40	Q V				
3+10	5.0180	27.30	Q V				
3+15	5.2177	29.00	Q V				
3+20	5.4206	29.46	Q V				
3+25	5.6307	30.50	Q  V				
3+30	5.8586	33.09	Q  V				
3+35	6.1072	36.10	Q   V				
3+40	6.3721	38.47	Q   V				
3+45	6.6481	40.08	Q   V				
3+50	6.9382	42.12	Q   V				
3+55	7.2388	43.65	Q   V				



## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

4+ 0	7.5531	45.63		Q	V				
4+ 5	7.8773	47.08		Q	V				
4+10	8.2206	49.84		Q	V				
4+15	8.5852	52.95		Q	V				
4+20	8.9720	56.16		Q	V				
4+25	9.3816	59.48		Q	V				
4+30	9.8085	61.98		Q	V				
4+35	10.2472	63.71		Q	V				
4+40	10.7062	66.64		Q	V				
4+45	11.1869	69.81		Q	V				
4+50	11.6845	72.25		Q	V				
4+55	12.1936	73.91		Q	V				
5+ 0	12.7224	76.79		Q	V				
5+ 5	13.2959	83.27		Q	V				
5+10	13.9602	96.45			Q	V			
5+15	14.7168	109.86			Q	V			
5+20	15.5488	120.81				Q	V		
5+25	16.4649	133.02				Q	V	V	
5+30	17.5097	151.70					Q	V	V
5+35	18.4725	139.81					Q	V	V
5+40	18.9990	76.44			Q			V	V
5+45	19.2974	43.33			Q			V	V
5+50	19.4833	26.99			Q			V	V
5+55	19.6059	17.80			Q			V	V
6+ 0	19.6824	11.10			Q			V	V
6+ 5	19.7190	5.32			Q			V	V
6+10	19.7323	1.93			Q			V	V
6+15	19.7383	0.88			Q			V	V
6+20	19.7413	0.43			Q			V	V
6+25	19.7426	0.18			Q			V	V
6+30	19.7430	0.07			Q			V	V

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# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

### U n i t   H y d r o g r a p h   A n a l y s i s

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 Study date 04/16/21 File: kxpr24100.out

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Riverside County Synthetic Unit Hydrology Method  
 RCFC & WCD Manual date - April 1978

Program License Serial Number 4029

-----  
 English (in-lb) Input Units Used  
 English Rainfall Data (Inches) Input Values Used

English Units used in output format

-----  
 Keller Crossing, Drainage Area C = 91.5 Ac  
 Hydrology Proposed Condition  
 100-year 24-hour storm

-----  
 Drainage Area = 88.24(Ac.) = 0.138 Sq. Mi.  
 Drainage Area for Depth-Area Areal Adjustment = 88.24(Ac.) = 0.138 Sq. Mi.  
 Length along longest watercourse = 2880.00(Ft.)  
 Length along longest watercourse measured to centroid = 1560.00(Ft.)  
 Length along longest watercourse = 0.545 Mi.  
 Length along longest watercourse measured to centroid = 0.295 Mi.  
 Difference in elevation = 102.70(Ft.)  
 Slope along watercourse = 188.2833 Ft./Mi.  
 Average Manning's 'N' = 0.016  
 Lag time = 0.071 Hr.  
 Lag time = 4.26 Min.  
 25% of lag time = 1.06 Min.  
 40% of lag time = 1.70 Min.  
 Unit time = 5.00 Min.  
 Duration of storm = 24 Hour(s)  
 User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	2.25	198.54

100 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
88.24	5.87	517.97

STORM EVENT (YEAR) = 100.00  
 Area Averaged 2-Year Rainfall = 2.250 (In)  
 Area Averaged 100-Year Rainfall = 5.870 (In)

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

Point rain (area averaged) = 5.870(In)  
 Areal adjustment factor = 99.98 %  
 Adjusted average point rain = 5.869(In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
5.890	69.00	0.010
70.750	69.00	0.650
11.600	69.00	0.900
Total Area Entered =		88.24 (Ac.)

RI	RI	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
AMC2	AMC-3					
69.0	84.4	0.194	0.010	0.192	0.067	0.013
69.0	84.4	0.194	0.650	0.080	0.802	0.064
69.0	84.4	0.194	0.900	0.037	0.131	0.005
Sum (F) =						0.082

Area averaged mean soil loss (F) (In/Hr) = 0.082  
 Minimum soil loss rate ((In/Hr)) = 0.041  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.390

U n i t H y d r o g r a p h  
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	117.475	21.755
2	0.167	234.951	43.384
3	0.250	352.426	12.037
4	0.333	469.902	5.473
5	0.417	587.377	3.057
6	0.500	704.853	1.793
7	0.583	822.328	1.430
Sum =		100.000	Sum= 88.929

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.08	0.047	( 0.146)   0.018	0.029
2	0.17	0.047	( 0.145)   0.018	0.029
3	0.25	0.047	( 0.145)   0.018	0.029
4	0.33	0.070	( 0.144)   0.027	0.043
5	0.42	0.070	( 0.143)   0.027	0.043
6	0.50	0.070	( 0.143)   0.027	0.043
7	0.58	0.070	( 0.142)   0.027	0.043
8	0.67	0.070	( 0.142)   0.027	0.043
9	0.75	0.070	( 0.141)   0.027	0.043
10	0.83	0.094	( 0.141)   0.037	0.057
11	0.92	0.094	( 0.140)   0.037	0.057
12	1.00	0.094	( 0.140)   0.037	0.057
13	1.08	0.070	( 0.139)   0.027	0.043
14	1.17	0.070	( 0.138)   0.027	0.043

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

15	1.25	0.10	0.070	( 0.138)	0.027	0.043
16	1.33	0.10	0.070	( 0.137)	0.027	0.043
17	1.42	0.10	0.070	( 0.137)	0.027	0.043
18	1.50	0.10	0.070	( 0.136)	0.027	0.043
19	1.58	0.10	0.070	( 0.136)	0.027	0.043
20	1.67	0.10	0.070	( 0.135)	0.027	0.043
21	1.75	0.10	0.070	( 0.135)	0.027	0.043
22	1.83	0.13	0.094	( 0.134)	0.037	0.057
23	1.92	0.13	0.094	( 0.134)	0.037	0.057
24	2.00	0.13	0.094	( 0.133)	0.037	0.057
25	2.08	0.13	0.094	( 0.132)	0.037	0.057
26	2.17	0.13	0.094	( 0.132)	0.037	0.057
27	2.25	0.13	0.094	( 0.131)	0.037	0.057
28	2.33	0.13	0.094	( 0.131)	0.037	0.057
29	2.42	0.13	0.094	( 0.130)	0.037	0.057
30	2.50	0.13	0.094	( 0.130)	0.037	0.057
31	2.58	0.17	0.117	( 0.129)	0.046	0.072
32	2.67	0.17	0.117	( 0.129)	0.046	0.072
33	2.75	0.17	0.117	( 0.128)	0.046	0.072
34	2.83	0.17	0.117	( 0.128)	0.046	0.072
35	2.92	0.17	0.117	( 0.127)	0.046	0.072
36	3.00	0.17	0.117	( 0.127)	0.046	0.072
37	3.08	0.17	0.117	( 0.126)	0.046	0.072
38	3.17	0.17	0.117	( 0.126)	0.046	0.072
39	3.25	0.17	0.117	( 0.125)	0.046	0.072
40	3.33	0.17	0.117	( 0.125)	0.046	0.072
41	3.42	0.17	0.117	( 0.124)	0.046	0.072
42	3.50	0.17	0.117	( 0.123)	0.046	0.072
43	3.58	0.17	0.117	( 0.123)	0.046	0.072
44	3.67	0.17	0.117	( 0.122)	0.046	0.072
45	3.75	0.17	0.117	( 0.122)	0.046	0.072
46	3.83	0.20	0.141	( 0.121)	0.055	0.086
47	3.92	0.20	0.141	( 0.121)	0.055	0.086
48	4.00	0.20	0.141	( 0.120)	0.055	0.086
49	4.08	0.20	0.141	( 0.120)	0.055	0.086
50	4.17	0.20	0.141	( 0.119)	0.055	0.086
51	4.25	0.20	0.141	( 0.119)	0.055	0.086
52	4.33	0.23	0.164	( 0.118)	0.064	0.100
53	4.42	0.23	0.164	( 0.118)	0.064	0.100
54	4.50	0.23	0.164	( 0.117)	0.064	0.100
55	4.58	0.23	0.164	( 0.117)	0.064	0.100
56	4.67	0.23	0.164	( 0.116)	0.064	0.100
57	4.75	0.23	0.164	( 0.116)	0.064	0.100
58	4.83	0.27	0.188	( 0.115)	0.073	0.115
59	4.92	0.27	0.188	( 0.115)	0.073	0.115
60	5.00	0.27	0.188	( 0.114)	0.073	0.115
61	5.08	0.20	0.141	( 0.114)	0.055	0.086
62	5.17	0.20	0.141	( 0.113)	0.055	0.086
63	5.25	0.20	0.141	( 0.113)	0.055	0.086
64	5.33	0.23	0.164	( 0.112)	0.064	0.100
65	5.42	0.23	0.164	( 0.112)	0.064	0.100
66	5.50	0.23	0.164	( 0.111)	0.064	0.100
67	5.58	0.27	0.188	( 0.111)	0.073	0.115
68	5.67	0.27	0.188	( 0.110)	0.073	0.115
69	5.75	0.27	0.188	( 0.110)	0.073	0.115
70	5.83	0.27	0.188	( 0.109)	0.073	0.115
71	5.92	0.27	0.188	( 0.109)	0.073	0.115
72	6.00	0.27	0.188	( 0.108)	0.073	0.115
73	6.08	0.30	0.211	( 0.108)	0.082	0.129
74	6.17	0.30	0.211	( 0.107)	0.082	0.129
75	6.25	0.30	0.211	( 0.107)	0.082	0.129
76	6.33	0.30	0.211	( 0.107)	0.082	0.129
77	6.42	0.30	0.211	( 0.106)	0.082	0.129

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

78	6.50	0.30	0.211	( 0.106)	0.082	0.129
79	6.58	0.33	0.235	( 0.105)	0.092	0.143
80	6.67	0.33	0.235	( 0.105)	0.092	0.143
81	6.75	0.33	0.235	( 0.104)	0.092	0.143
82	6.83	0.33	0.235	( 0.104)	0.092	0.143
83	6.92	0.33	0.235	( 0.103)	0.092	0.143
84	7.00	0.33	0.235	( 0.103)	0.092	0.143
85	7.08	0.33	0.235	( 0.102)	0.092	0.143
86	7.17	0.33	0.235	( 0.102)	0.092	0.143
87	7.25	0.33	0.235	( 0.101)	0.092	0.143
88	7.33	0.37	0.258	( 0.101)	0.101	0.158
89	7.42	0.37	0.258	0.100	( 0.101)	0.158
90	7.50	0.37	0.258	0.100	( 0.101)	0.158
91	7.58	0.40	0.282	0.100	( 0.110)	0.182
92	7.67	0.40	0.282	0.099	( 0.110)	0.183
93	7.75	0.40	0.282	0.099	( 0.110)	0.183
94	7.83	0.43	0.305	0.098	( 0.119)	0.207
95	7.92	0.43	0.305	0.098	( 0.119)	0.207
96	8.00	0.43	0.305	0.097	( 0.119)	0.208
97	8.08	0.50	0.352	0.097	( 0.137)	0.255
98	8.17	0.50	0.352	0.096	( 0.137)	0.256
99	8.25	0.50	0.352	0.096	( 0.137)	0.256
100	8.33	0.50	0.352	0.095	( 0.137)	0.257
101	8.42	0.50	0.352	0.095	( 0.137)	0.257
102	8.50	0.50	0.352	0.095	( 0.137)	0.258
103	8.58	0.53	0.376	0.094	( 0.146)	0.282
104	8.67	0.53	0.376	0.094	( 0.146)	0.282
105	8.75	0.53	0.376	0.093	( 0.146)	0.282
106	8.83	0.57	0.399	0.093	( 0.156)	0.306
107	8.92	0.57	0.399	0.092	( 0.156)	0.307
108	9.00	0.57	0.399	0.092	( 0.156)	0.307
109	9.08	0.63	0.446	0.091	( 0.174)	0.355
110	9.17	0.63	0.446	0.091	( 0.174)	0.355
111	9.25	0.63	0.446	0.091	( 0.174)	0.355
112	9.33	0.67	0.470	0.090	( 0.183)	0.379
113	9.42	0.67	0.470	0.090	( 0.183)	0.380
114	9.50	0.67	0.470	0.089	( 0.183)	0.380
115	9.58	0.70	0.493	0.089	( 0.192)	0.404
116	9.67	0.70	0.493	0.088	( 0.192)	0.405
117	9.75	0.70	0.493	0.088	( 0.192)	0.405
118	9.83	0.73	0.516	0.088	( 0.201)	0.429
119	9.92	0.73	0.516	0.087	( 0.201)	0.429
120	10.00	0.73	0.516	0.087	( 0.201)	0.430
121	10.08	0.50	0.352	0.086	( 0.137)	0.266
122	10.17	0.50	0.352	0.086	( 0.137)	0.266
123	10.25	0.50	0.352	0.086	( 0.137)	0.267
124	10.33	0.50	0.352	0.085	( 0.137)	0.267
125	10.42	0.50	0.352	0.085	( 0.137)	0.267
126	10.50	0.50	0.352	0.084	( 0.137)	0.268
127	10.58	0.67	0.470	0.084	( 0.183)	0.386
128	10.67	0.67	0.470	0.083	( 0.183)	0.386
129	10.75	0.67	0.470	0.083	( 0.183)	0.386
130	10.83	0.67	0.470	0.083	( 0.183)	0.387
131	10.92	0.67	0.470	0.082	( 0.183)	0.387
132	11.00	0.67	0.470	0.082	( 0.183)	0.388
133	11.08	0.63	0.446	0.081	( 0.174)	0.365
134	11.17	0.63	0.446	0.081	( 0.174)	0.365
135	11.25	0.63	0.446	0.081	( 0.174)	0.365
136	11.33	0.63	0.446	0.080	( 0.174)	0.366
137	11.42	0.63	0.446	0.080	( 0.174)	0.366
138	11.50	0.63	0.446	0.079	( 0.174)	0.367
139	11.58	0.57	0.399	0.079	( 0.156)	0.320
140	11.67	0.57	0.399	0.079	( 0.156)	0.320

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

141	11.75	0.57	0.399	0.078	( 0.156)	0.321
142	11.83	0.60	0.423	0.078	( 0.165)	0.345
143	11.92	0.60	0.423	0.077	( 0.165)	0.345
144	12.00	0.60	0.423	0.077	( 0.165)	0.345
145	12.08	0.83	0.587	0.077	( 0.229)	0.510
146	12.17	0.83	0.587	0.076	( 0.229)	0.511
147	12.25	0.83	0.587	0.076	( 0.229)	0.511
148	12.33	0.87	0.610	0.076	( 0.238)	0.535
149	12.42	0.87	0.610	0.075	( 0.238)	0.535
150	12.50	0.87	0.610	0.075	( 0.238)	0.536
151	12.58	0.93	0.657	0.074	( 0.256)	0.583
152	12.67	0.93	0.657	0.074	( 0.256)	0.583
153	12.75	0.93	0.657	0.074	( 0.256)	0.584
154	12.83	0.97	0.681	0.073	( 0.266)	0.608
155	12.92	0.97	0.681	0.073	( 0.266)	0.608
156	13.00	0.97	0.681	0.073	( 0.266)	0.608
157	13.08	1.13	0.798	0.072	( 0.311)	0.726
158	13.17	1.13	0.798	0.072	( 0.311)	0.726
159	13.25	1.13	0.798	0.071	( 0.311)	0.727
160	13.33	1.13	0.798	0.071	( 0.311)	0.727
161	13.42	1.13	0.798	0.071	( 0.311)	0.727
162	13.50	1.13	0.798	0.070	( 0.311)	0.728
163	13.58	0.77	0.540	0.070	( 0.211)	0.470
164	13.67	0.77	0.540	0.070	( 0.211)	0.470
165	13.75	0.77	0.540	0.069	( 0.211)	0.471
166	13.83	0.77	0.540	0.069	( 0.211)	0.471
167	13.92	0.77	0.540	0.069	( 0.211)	0.471
168	14.00	0.77	0.540	0.068	( 0.211)	0.472
169	14.08	0.90	0.634	0.068	( 0.247)	0.566
170	14.17	0.90	0.634	0.068	( 0.247)	0.566
171	14.25	0.90	0.634	0.067	( 0.247)	0.567
172	14.33	0.87	0.610	0.067	( 0.238)	0.544
173	14.42	0.87	0.610	0.067	( 0.238)	0.544
174	14.50	0.87	0.610	0.066	( 0.238)	0.544
175	14.58	0.87	0.610	0.066	( 0.238)	0.545
176	14.67	0.87	0.610	0.066	( 0.238)	0.545
177	14.75	0.87	0.610	0.065	( 0.238)	0.545
178	14.83	0.83	0.587	0.065	( 0.229)	0.522
179	14.92	0.83	0.587	0.065	( 0.229)	0.522
180	15.00	0.83	0.587	0.064	( 0.229)	0.523
181	15.08	0.80	0.563	0.064	( 0.220)	0.500
182	15.17	0.80	0.563	0.064	( 0.220)	0.500
183	15.25	0.80	0.563	0.063	( 0.220)	0.500
184	15.33	0.77	0.540	0.063	( 0.211)	0.477
185	15.42	0.77	0.540	0.063	( 0.211)	0.477
186	15.50	0.77	0.540	0.062	( 0.211)	0.478
187	15.58	0.63	0.446	0.062	( 0.174)	0.384
188	15.67	0.63	0.446	0.062	( 0.174)	0.384
189	15.75	0.63	0.446	0.061	( 0.174)	0.385
190	15.83	0.63	0.446	0.061	( 0.174)	0.385
191	15.92	0.63	0.446	0.061	( 0.174)	0.385
192	16.00	0.63	0.446	0.060	( 0.174)	0.386
193	16.08	0.13	0.094	( 0.060)	0.037	0.057
194	16.17	0.13	0.094	( 0.060)	0.037	0.057
195	16.25	0.13	0.094	( 0.059)	0.037	0.057
196	16.33	0.13	0.094	( 0.059)	0.037	0.057
197	16.42	0.13	0.094	( 0.059)	0.037	0.057
198	16.50	0.13	0.094	( 0.059)	0.037	0.057
199	16.58	0.10	0.070	( 0.058)	0.027	0.043
200	16.67	0.10	0.070	( 0.058)	0.027	0.043
201	16.75	0.10	0.070	( 0.058)	0.027	0.043
202	16.83	0.10	0.070	( 0.057)	0.027	0.043
203	16.92	0.10	0.070	( 0.057)	0.027	0.043

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

204	17.00	0.10	0.070	( 0.057)	0.027	0.043
205	17.08	0.17	0.117	( 0.056)	0.046	0.072
206	17.17	0.17	0.117	( 0.056)	0.046	0.072
207	17.25	0.17	0.117	( 0.056)	0.046	0.072
208	17.33	0.17	0.117	( 0.056)	0.046	0.072
209	17.42	0.17	0.117	( 0.055)	0.046	0.072
210	17.50	0.17	0.117	( 0.055)	0.046	0.072
211	17.58	0.17	0.117	( 0.055)	0.046	0.072
212	17.67	0.17	0.117	( 0.055)	0.046	0.072
213	17.75	0.17	0.117	( 0.054)	0.046	0.072
214	17.83	0.13	0.094	( 0.054)	0.037	0.057
215	17.92	0.13	0.094	( 0.054)	0.037	0.057
216	18.00	0.13	0.094	( 0.053)	0.037	0.057
217	18.08	0.13	0.094	( 0.053)	0.037	0.057
218	18.17	0.13	0.094	( 0.053)	0.037	0.057
219	18.25	0.13	0.094	( 0.053)	0.037	0.057
220	18.33	0.13	0.094	( 0.052)	0.037	0.057
221	18.42	0.13	0.094	( 0.052)	0.037	0.057
222	18.50	0.13	0.094	( 0.052)	0.037	0.057
223	18.58	0.10	0.070	( 0.052)	0.027	0.043
224	18.67	0.10	0.070	( 0.051)	0.027	0.043
225	18.75	0.10	0.070	( 0.051)	0.027	0.043
226	18.83	0.07	0.047	( 0.051)	0.018	0.029
227	18.92	0.07	0.047	( 0.051)	0.018	0.029
228	19.00	0.07	0.047	( 0.050)	0.018	0.029
229	19.08	0.10	0.070	( 0.050)	0.027	0.043
230	19.17	0.10	0.070	( 0.050)	0.027	0.043
231	19.25	0.10	0.070	( 0.050)	0.027	0.043
232	19.33	0.13	0.094	( 0.049)	0.037	0.057
233	19.42	0.13	0.094	( 0.049)	0.037	0.057
234	19.50	0.13	0.094	( 0.049)	0.037	0.057
235	19.58	0.10	0.070	( 0.049)	0.027	0.043
236	19.67	0.10	0.070	( 0.049)	0.027	0.043
237	19.75	0.10	0.070	( 0.048)	0.027	0.043
238	19.83	0.07	0.047	( 0.048)	0.018	0.029
239	19.92	0.07	0.047	( 0.048)	0.018	0.029
240	20.00	0.07	0.047	( 0.048)	0.018	0.029
241	20.08	0.10	0.070	( 0.047)	0.027	0.043
242	20.17	0.10	0.070	( 0.047)	0.027	0.043
243	20.25	0.10	0.070	( 0.047)	0.027	0.043
244	20.33	0.10	0.070	( 0.047)	0.027	0.043
245	20.42	0.10	0.070	( 0.047)	0.027	0.043
246	20.50	0.10	0.070	( 0.046)	0.027	0.043
247	20.58	0.10	0.070	( 0.046)	0.027	0.043
248	20.67	0.10	0.070	( 0.046)	0.027	0.043
249	20.75	0.10	0.070	( 0.046)	0.027	0.043
250	20.83	0.07	0.047	( 0.046)	0.018	0.029
251	20.92	0.07	0.047	( 0.046)	0.018	0.029
252	21.00	0.07	0.047	( 0.045)	0.018	0.029
253	21.08	0.10	0.070	( 0.045)	0.027	0.043
254	21.17	0.10	0.070	( 0.045)	0.027	0.043
255	21.25	0.10	0.070	( 0.045)	0.027	0.043
256	21.33	0.07	0.047	( 0.045)	0.018	0.029
257	21.42	0.07	0.047	( 0.044)	0.018	0.029
258	21.50	0.07	0.047	( 0.044)	0.018	0.029
259	21.58	0.10	0.070	( 0.044)	0.027	0.043
260	21.67	0.10	0.070	( 0.044)	0.027	0.043
261	21.75	0.10	0.070	( 0.044)	0.027	0.043
262	21.83	0.07	0.047	( 0.044)	0.018	0.029
263	21.92	0.07	0.047	( 0.044)	0.018	0.029
264	22.00	0.07	0.047	( 0.043)	0.018	0.029
265	22.08	0.10	0.070	( 0.043)	0.027	0.043
266	22.17	0.10	0.070	( 0.043)	0.027	0.043

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

267	22.25	0.10	0.070	( 0.043)	0.027	0.043
268	22.33	0.07	0.047	( 0.043)	0.018	0.029
269	22.42	0.07	0.047	( 0.043)	0.018	0.029
270	22.50	0.07	0.047	( 0.043)	0.018	0.029
271	22.58	0.07	0.047	( 0.042)	0.018	0.029
272	22.67	0.07	0.047	( 0.042)	0.018	0.029
273	22.75	0.07	0.047	( 0.042)	0.018	0.029
274	22.83	0.07	0.047	( 0.042)	0.018	0.029
275	22.92	0.07	0.047	( 0.042)	0.018	0.029
276	23.00	0.07	0.047	( 0.042)	0.018	0.029
277	23.08	0.07	0.047	( 0.042)	0.018	0.029
278	23.17	0.07	0.047	( 0.042)	0.018	0.029
279	23.25	0.07	0.047	( 0.042)	0.018	0.029
280	23.33	0.07	0.047	( 0.042)	0.018	0.029
281	23.42	0.07	0.047	( 0.041)	0.018	0.029
282	23.50	0.07	0.047	( 0.041)	0.018	0.029
283	23.58	0.07	0.047	( 0.041)	0.018	0.029
284	23.67	0.07	0.047	( 0.041)	0.018	0.029
285	23.75	0.07	0.047	( 0.041)	0.018	0.029
286	23.83	0.07	0.047	( 0.041)	0.018	0.029
287	23.92	0.07	0.047	( 0.041)	0.018	0.029
288	24.00	0.07	0.047	( 0.041)	0.018	0.029

(Loss Rate Not Used)

Sum = 100.0 Sum = 54.8

Flood volume = Effective rainfall 4.57 (In)  
times area 88.2 (Ac.) / [(In) / (Ft.)] = 33.6 (Ac.Ft)  
Total soil loss = 1.30 (In)  
Total soil loss = 9.563 (Ac.Ft)  
Total rainfall = 5.87 (In)  
Flood volume = 1463339.5 Cubic Feet  
Total soil loss = 416563.2 Cubic Feet

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Peak flow rate of this hydrograph = 64.548 (CFS)  
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24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

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Hydrograph in 5 Minute intervals ((CFS))  
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	17.5	35.0	52.5	70.0
0+ 5	0.0043	0.62	Q				
0+10	0.0171	1.87	VQ				
0+15	0.0324	2.21	VQ				
0+20	0.0508	2.68	VQ				
0+25	0.0742	3.39	VQ				
0+30	0.0991	3.61	V Q				
0+35	0.1248	3.73	V Q				
0+40	0.1508	3.78	V Q				
0+45	0.1770	3.80	V Q				
0+50	0.2054	4.13	V Q				
0+55	0.2382	4.76	V Q				
1+ 0	0.2721	4.93	V Q				
1+ 5	0.3045	4.69	V Q				
1+10	0.3328	4.12	V Q				
1+15	0.3602	3.97	V Q				
1+20	0.3871	3.91	V Q				
1+25	0.4137	3.87	V Q				
1+30	0.4402	3.84	V Q				
1+35	0.4665	3.82	V Q				
1+40	0.4929	3.82	V Q				



**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

1+45	0.5192	3.82	V Q				
1+50	0.5477	4.13	V Q				
1+55	0.5804	4.76	V Q				
2+ 0	0.6144	4.93	V Q				
2+ 5	0.6488	5.01	V Q				
2+10	0.6836	5.05	V Q				
2+15	0.7186	5.08	V Q				
2+20	0.7537	5.10	V Q				
2+25	0.7888	5.10	V Q				
2+30	0.8239	5.10	V Q				
2+35	0.8611	5.41	V Q				
2+40	0.9027	6.03	V Q				
2+45	0.9454	6.20	V Q				
2+50	0.9886	6.28	V Q				
2+55	1.0322	6.32	V Q				
3+ 0	1.0759	6.35	V Q				
3+ 5	1.1198	6.37	V Q				
3+10	1.1637	6.37	V Q				
3+15	1.2076	6.37	V Q				
3+20	1.2514	6.37	V Q				
3+25	1.2953	6.37	V Q				
3+30	1.3392	6.37	V Q				
3+35	1.3831	6.37	V Q				
3+40	1.4269	6.37	V Q				
3+45	1.4708	6.37	V Q				
3+50	1.5168	6.68	V Q				
3+55	1.5671	7.30	V Q				
4+ 0	1.6186	7.48	V Q				
4+ 5	1.6707	7.55	V Q				
4+10	1.7230	7.60	V Q				
4+15	1.7755	7.62	V Q				
4+20	1.8303	7.96	V Q				
4+25	1.8894	8.58	V Q				
4+30	1.9496	8.75	V Q				
4+35	2.0105	8.83	V Q				
4+40	2.0716	8.87	V Q				
4+45	2.1328	8.90	V Q				
4+50	2.1964	9.23	V Q				
4+55	2.2643	9.85	V Q				
5+ 0	2.3333	10.02	V Q				
5+ 5	2.3986	9.48	V Q				
5+10	2.4556	8.28	V Q				
5+15	2.5105	7.96	V Q				
5+20	2.5665	8.14	VQ				
5+25	2.6262	8.67	VQ				
5+30	2.6868	8.79	V Q				
5+35	2.7497	9.14	V Q				
5+40	2.8172	9.81	V Q				
5+45	2.8861	10.00	V Q				
5+50	2.9557	10.10	V Q				
5+55	3.0256	10.15	V Q				
6+ 0	3.0957	10.17	V Q				
6+ 5	3.1680	10.50	V Q				
6+10	3.2447	11.13	V Q				
6+15	3.3225	11.30	V Q				
6+20	3.4008	11.38	V Q				
6+25	3.4795	11.42	V Q				
6+30	3.5583	11.45	V Q				
6+35	3.6394	11.78	V Q				
6+40	3.7248	12.40	V Q				
6+45	3.8114	12.57	V Q				
6+50	3.8986	12.65	V Q				
6+55	3.9860	12.70	V Q				

## Keller Crossing – Tract 38163

### ATTACHMENT D – Inflow Hydrographs, Proposed Condition

7+ 0	4.0736	12.72	V	Q					
7+ 5	4.1614	12.74	V	Q					
7+10	4.2491	12.74	V	Q					
7+15	4.3369	12.74	V	Q					
7+20	4.4268	13.05	V	Q					
7+25	4.5210	13.68	V	Q					
7+30	4.6166	13.88	V	Q					
7+35	4.7164	14.50	V	Q					
7+40	4.8238	15.60	V	Q					
7+45	4.9336	15.95	V	Q					
7+50	5.0483	16.64	V	Q					
7+55	5.1707	17.78	V	Q					
8+ 0	5.2956	18.14	V	Q					
8+ 5	5.4290	19.37	V	Q					
8+10	5.5772	21.52	V	Q					
8+15	5.7298	22.16	V	Q					
8+20	5.8848	22.49	V	Q					
8+25	6.0409	22.68	V	Q					
8+30	6.1980	22.80	V	Q					
8+35	6.3593	23.42	V	Q					
8+40	6.5278	24.48	V	Q					
8+45	6.6986	24.80	V	Q					
8+50	6.8741	25.48	V	Q					
8+55	7.0574	26.61	V	Q					
9+ 0	7.2431	26.97	V	Q					
9+ 5	7.4373	28.20	V	Q					
9+10	7.6463	30.34	V	Q					
9+15	7.8597	30.99	V	Q					
9+20	8.0789	31.83	V	Q					
9+25	8.3064	33.03	V	Q					
9+30	8.5367	33.44	V	Q					
9+35	8.7721	34.18	V	Q					
9+40	9.0153	35.31	V	Q					
9+45	9.2610	35.67	V	Q					
9+50	9.5116	36.38	V	Q					
9+55	9.7699	37.51	V	Q					
10+ 0	10.0308	37.88	V	Q					
10+ 5	10.2684	34.50	V	Q					
10+10	10.4576	27.47	V	Q					
10+15	10.6337	25.57	V	Q					
10+20	10.8042	24.75	V	Q					
10+25	10.9714	24.28	V	Q					
10+30	11.1368	24.02	V	Q					
10+35	11.3185	26.38	V	Q					
10+40	11.5355	31.51	V	Q					
10+45	11.7625	32.96	V	Q					
10+50	11.9942	33.64	V	Q					
10+55	12.2286	34.03	V	Q					
11+ 0	12.4647	34.28	V	Q					
11+ 5	12.6987	33.97	V	Q					
11+10	12.9259	32.99	V	Q					
11+15	13.1514	32.74	V	Q					
11+20	13.3763	32.65	V	Q					
11+25	13.6009	32.62	V	Q					
11+30	13.8255	32.61	V	Q					
11+35	14.0430	31.59	V	Q					
11+40	14.2468	29.59	V	Q					
11+45	14.4469	29.05	V	Q					
11+50	14.6490	29.34	V	Q					
11+55	14.8573	30.25	V	Q					
12+ 0	15.0673	30.49	V	Q					
12+ 5	15.3025	34.16	V	Q					
12+10	15.5877	41.40	V	Q					

# Keller Crossing – Tract 38163

## ATTACHMENT D – Inflow Hydrographs, Proposed Condition

12+15	15.8869	43.45			V	Q		
12+20	16.1964	44.93			V	Q		
12+25	16.5165	46.49			V	Q		
12+30	16.8409	47.10			V	Q		
12+35	17.1751	48.52			V	Q		
12+40	17.5240	50.66			V	Q		
12+45	17.8773	51.30			V	Q		
12+50	18.2364	52.14			V	Q		
12+55	18.6037	53.33			V	Q		
13+ 0	18.9738	53.73			V	Q		
13+ 5	19.3630	56.52			V	Q	Q	
13+10	19.7880	61.72			V		Q	
13+15	20.2233	63.21			V		Q	Q
13+20	20.6635	63.91			V		Q	Q
13+25	21.1064	64.31			V		Q	Q
13+30	21.5509	64.55			V		Q	Q
13+35	21.9581	59.13			V		Q	
13+40	22.2884	47.95			V	Q		
13+45	22.5974	44.87			V	Q		
13+50	22.8969	43.49			V	Q		
13+55	23.1912	42.73			V	Q		
14+ 0	23.4825	42.30			V	Q		
14+ 5	23.7856	44.00			V	Q		
14+10	24.1169	48.11			V	Q		
14+15	24.4563	49.27			V	Q		
14+20	24.7959	49.31			V	Q		
14+25	25.1306	48.61			V	Q		
14+30	25.4648	48.52			V	Q		
14+35	25.7992	48.56			V	Q		
14+40	26.1334	48.52			V	Q		
14+45	26.4674	48.51			V	Q		
14+50	26.7979	47.99			V	Q		
14+55	27.1216	47.00			V	Q		
15+ 0	27.4436	46.75			V	Q		
15+ 5	27.7614	46.14			V	Q		
15+10	28.0718	45.08			V	Q		
15+15	28.3802	44.78			V	Q		
15+20	28.6842	44.14			V	Q		
15+25	28.9808	43.07			V	Q		
15+30	29.2755	42.78			V	Q		
15+35	29.5551	40.60			V	Q		
15+40	29.8063	36.48			V	Q		
15+45	30.0497	35.34			V	Q		
15+50	30.2895	34.82			V	Q		
15+55	30.5275	34.56			V	Q		
16+ 0	30.7645	34.42			V	Q		
16+ 5	30.9515	27.16		Q	V	Q		
16+10	31.0404	12.91		Q	V	Q		
16+15	31.1021	8.96		Q	V	Q		
16+20	31.1514	7.16		Q	V	Q		
16+25	31.1938	6.16		Q	V	Q		
16+30	31.2321	5.57		Q	V	Q		
16+35	31.2651	4.78		Q	V	Q		
16+40	31.2938	4.16		Q	V	Q		
16+45	31.3213	3.99		Q	V	Q		
16+50	31.3482	3.91		Q	V	Q		
16+55	31.3748	3.87		Q	V	Q		
17+ 0	31.4013	3.84		Q	V	Q		
17+ 5	31.4319	4.45		Q	V	Q		
17+10	31.4711	5.69		Q	V	Q		
17+15	31.5127	6.03		Q	V	Q		
17+20	31.5553	6.19		Q	V	Q		
17+25	31.5985	6.28		Q	V	Q		

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

17+30	31.6421	6.33	Q				V	
17+35	31.6860	6.37	Q				V	
17+40	31.7299	6.37	Q				V	
17+45	31.7738	6.37	Q				V	
17+50	31.8155	6.06	Q				V	
17+55	31.8529	5.44	Q				V	
18+ 0	31.8892	5.27	Q				V	
18+ 5	31.9249	5.19	Q				V	
18+10	31.9603	5.14	Q				V	
18+15	31.9956	5.12	Q				V	
18+20	32.0307	5.10	Q				V	
18+25	32.0658	5.10	Q				V	
18+30	32.1009	5.10	Q				V	
18+35	32.1338	4.78	Q				V	
18+40	32.1625	4.16	Q				V	
18+45	32.1900	3.99	Q				V	
18+50	32.2148	3.60	Q				V	
18+55	32.2350	2.94	Q				V	
19+ 0	32.2539	2.74	Q				V	
19+ 5	32.2742	2.95	Q				V	
19+10	32.2985	3.53	Q				V	
19+15	32.3238	3.67	Q				V	
19+20	32.3516	4.04	Q				V	
19+25	32.3841	4.71	Q				V	
19+30	32.4179	4.91	Q				V	
19+35	32.4502	4.69	Q				V	
19+40	32.4786	4.12	Q				V	
19+45	32.5059	3.97	Q				V	
19+50	32.5307	3.60	Q				V	
19+55	32.5509	2.94	Q				V	
20+ 0	32.5698	2.74	Q				V	
20+ 5	32.5901	2.95	Q				V	
20+10	32.6144	3.53	Q				V	
20+15	32.6397	3.67	Q				V	
20+20	32.6654	3.73	Q				V	
20+25	32.6914	3.78	Q				V	
20+30	32.7176	3.80	Q				V	
20+35	32.7439	3.82	Q				V	
20+40	32.7702	3.82	Q				V	
20+45	32.7966	3.82	Q				V	
20+50	32.8207	3.51	Q				V	
20+55	32.8406	2.89	Q				V	
21+ 0	32.8594	2.72	Q				V	
21+ 5	32.8797	2.95	Q				V	
21+10	32.9040	3.53	Q				V	
21+15	32.9293	3.67	Q				V	
21+20	32.9528	3.42	Q				V	
21+25	32.9724	2.84	Q				V	
21+30	32.9910	2.70	Q				V	
21+35	33.0113	2.95	Q				V	
21+40	33.0356	3.53	Q				V	
21+45	33.0609	3.67	Q				V	
21+50	33.0845	3.42	Q				V	
21+55	33.1040	2.84	Q				V	
22+ 0	33.1226	2.70	Q				V	
22+ 5	33.1429	2.95	Q				V	
22+10	33.1672	3.53	Q				V	
22+15	33.1925	3.67	Q				V	
22+20	33.2161	3.42	Q				V	
22+25	33.2357	2.84	Q				V	
22+30	33.2542	2.70	Q				V	
22+35	33.2724	2.64	Q				V	
22+40	33.2903	2.59	Q				V	

**Keller Crossing – Tract 38163**  
**ATTACHMENT D – Inflow Hydrographs, Proposed Condition**

22+45	33.3080	2.57	Q				V
22+50	33.3255	2.55	Q				V
22+55	33.3431	2.55	Q				V
23+ 0	33.3606	2.55	Q				V
23+ 5	33.3782	2.55	Q				V
23+10	33.3957	2.55	Q				V
23+15	33.4133	2.55	Q				V
23+20	33.4308	2.55	Q				V
23+25	33.4484	2.55	Q				V
23+30	33.4659	2.55	Q				V
23+35	33.4835	2.55	Q				V
23+40	33.5010	2.55	Q				V
23+45	33.5186	2.55	Q				V
23+50	33.5361	2.55	Q				V
23+55	33.5537	2.55	Q				V
24+ 0	33.5712	2.55	Q				V
24+ 5	33.5845	1.92	Q				V
24+10	33.5892	0.68	Q				V
24+15	33.5915	0.34	Q				V
24+20	33.5927	0.18	Q				V
24+25	33.5934	0.09	Q				V
24+30	33.5937	0.04	Q				V

---

**ATTACHMENT E:**  
**DETENTION BASIN ROUTING**

**Detention Basin Routing  
Sensitive Analysis  
2-, 5-, 10-, 100-yr 1-, 3-, 6-, 24-hour  
Basin B and Basin C**

Keller Crossing – Tract 38163  
ATTACHMENT E – Detention Basin Routing

# Detention Basin B

FLOOD HYDROGRAPH ROUTING PROGRAM  
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Study date: 10/07/21

-----  
KELLER CROSSING  
Drainage Area B = 59.9 Ac  
Detention Basin Routing Basin C  
10-year 1-hour storm  
-----

Program License Serial Number 4029

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\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kxbpr10h110.rte  
\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
Number of intervals = 27  
Time interval = 5.0 (Min.)  
Maximum/Peak flow rate = 82.730 (CFS)  
Total volume = 3.601 (Ac.Ft)  
Status of hydrographs being held in storage  
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5  
Peak (CFS) 0.000 0.000 0.000 0.000 0.000  
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000  
\*\*\*\*\*

++++++  
Process from Point/Station 10.000 to Point/Station 11.000  
\*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
User entry of depth-outflow-storage data  
-----

Total number of inflow hydrograph intervals = 27  
Hydrograph time unit = 5.000 (Min.)  
Initial depth in storage basin = 0.00 (Ft.)  
-----

Initial basin depth = 0.00 (Ft.)  
Initial basin storage = 0.00 (Ac.Ft)  
Initial basin outflow = 0.00 (CFS)  
-----

-----  
Depth vs. Storage and Depth vs. Discharge data:  
Basin Depth Storage Outflow (S-O\*dt/2) (S+O\*dt/2)  
(Ft.) (Ac.Ft) (CFS) (Ac.Ft) (Ac.Ft)  
-----  
0.000 0.000 0.000 0.000 0.000  
1.000 0.010 5.130 -0.008 0.028  
-----



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

2.000	0.130	7.370	0.105	0.155
3.000	0.490	9.060	0.459	0.521
4.000	1.130	10.480	1.094	1.166
5.000	2.030	11.740	1.990	2.070
6.000	3.090	12.870	3.046	3.134
7.000	4.200	13.910	4.152	4.248
8.000	5.390	14.880	5.339	5.441
9.000	6.650	15.780	6.596	6.704
10.000	7.990	16.650	7.933	8.047
11.000	9.390	17.460	9.330	9.450
12.000	10.870	18.240	10.807	10.933
13.000	12.430	108.990	12.055	12.805
14.000	14.060	274.260	13.116	15.004

-----  
 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I' = unit inflow; 'O' = outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	Storage					Depth (Ft.)
				.0	20.7	41.37	62.05	82.73	
0.083	1.07	0.68	0.001	O					0.13
0.167	5.67	4.11	0.008	O					0.80
0.250	10.86	5.54	0.032	O	I				1.18
0.333	14.78	6.42	0.079	O	I				1.57
0.417	17.86	7.43	0.144	O	I				2.04
0.500	20.32	7.80	0.223	O	I				2.26
0.583	23.97	8.26	0.320	O	I				2.53
0.667	29.85	8.85	0.446	O		I			2.88
0.750	38.16	9.34	0.618	O		I			3.20
0.833	55.91	9.91	0.875	O			I		3.60
0.917	82.73	10.69	1.282	O				I	4.17
1.000	76.42	11.35	1.754	O				I	4.69
1.083	47.51	11.82	2.101	O		I			5.07
1.167	28.90	12.01	2.282	O	I				5.24
1.250	18.23	12.09	2.361	O	I				5.31
1.333	12.89	12.12	2.385	O					5.33
1.417	9.58	12.11	2.379	O	I				5.33
1.500	7.24	12.08	2.353	O	I				5.31
1.583	5.74	12.04	2.315	O	I				5.27
1.667	4.43	11.99	2.267	O	I				5.22
1.750	3.43	11.93	2.212	O	I				5.17
1.833	2.59	11.87	2.151	O	I				5.11
1.917	1.93	11.80	2.085	O	I				5.05
2.000	1.50	11.72	2.016	I	O				4.98
2.083	0.93	11.62	1.944	I	O				4.90
2.167	0.25	11.51	1.868	I	O				4.82
2.250	0.07	11.40	1.790	I	O				4.73
2.333	0.00	11.30	1.712	I	O				4.65
2.417	0.00	11.19	1.635	I	O				4.56
2.500	0.00	11.08	1.558	I	O				4.48
2.583	0.00	10.97	1.482	I	O				4.39
2.667	0.00	10.87	1.407	I	O				4.31
2.750	0.00	10.76	1.333	I	O				4.23
2.833	0.00	10.66	1.259	I	O				4.14
2.917	0.00	10.56	1.186	I	O				4.06
3.000	0.00	10.44	1.113	I	O				3.97
3.083	0.00	10.28	1.042	I	O				3.86
3.167	0.00	10.13	0.972	I	O				3.75
3.250	0.00	9.98	0.903	I	O				3.64
3.333	0.00	9.82	0.834	I	O				3.54
3.417	0.00	9.68	0.767	I	O				3.43
3.500	0.00	9.53	0.701	I	O				3.33

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

3.583	0.00	9.38	0.636	I	O					3.23
3.667	0.00	9.24	0.572	I	O					3.13
3.750	0.00	9.10	0.509	I	O					3.03
3.833	0.00	8.86	0.447	I	O					2.88
3.917	0.00	8.58	0.387	I	O					2.71
4.000	0.00	8.30	0.329	I	O					2.55
4.083	0.00	8.04	0.272	I	O					2.40
4.167	0.00	7.78	0.218	I	O					2.24
4.250	0.00	7.54	0.165	I	O					2.10
4.333	0.00	7.09	0.115	I	O					1.87
4.417	0.00	6.23	0.069	I	O					1.49
4.500	0.00	5.48	0.029	I	O					1.16
4.583	0.00	1.81	0.004	O						0.35
4.667	0.00	0.00	0.000	O						0.00

```

*****HYDROGRAPH DATA*****
      Number of intervals =    56
      Time interval =      5.0 (Min.)
      Maximum/Peak flow rate =      12.118 (CFS)
      Total volume =      3.603 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
      Peak (CFS)      0.000      0.000      0.000      0.000      0.000
      Vol (Ac.Ft)      0.000      0.000      0.000      0.000      0.000
*****

```

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
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 Study date: 10/07/21

```
-----
KELLER CROSSING
Drainage Area B = 59.9 Ac
Detention Basin Routing Basin C
25-year 1-hour storm
-----
```

Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

```

From study/file name: kxbpr25h125.rte
*****HYDROGRAPH DATA*****
Number of intervals = 27
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 107.726 (CFS)
Total volume = 4.842 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

```

```

+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

```

User entry of depth-outflow-storage data

```
-----
Total number of inflow hydrograph intervals = 27
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
-----
```

```
-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.010	5.130	-0.008	0.028
2.000	0.130	7.370	0.105	0.155
3.000	0.490	9.060	0.459	0.521
4.000	1.130	10.480	1.094	1.166
5.000	2.030	11.740	1.990	2.070
6.000	3.090	12.870	3.046	3.134

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

7.000	4.200	13.910	4.152	4.248
8.000	5.390	14.880	5.339	5.441
9.000	6.650	15.780	6.596	6.704
10.000	7.990	16.650	7.933	8.047
11.000	9.390	17.460	9.330	9.450
12.000	10.870	18.240	10.807	10.933
13.000	12.430	108.990	12.055	12.805
14.000	14.060	274.260	13.116	15.004

-----  
 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)						Depth (Ft.)
				.0	26.9	53.86	80.79	107.73	
0.083	1.59	1.02	0.002	O					0.20
0.167	8.45	5.22	0.015	O	I				1.04
0.250	16.06	6.07	0.061	O	I				1.42
0.333	21.46	7.43	0.143	O	I				2.04
0.417	25.57	7.94	0.252	O	I				2.34
0.500	28.83	8.56	0.383	O	I				2.70
0.583	33.55	9.16	0.537	O	I				3.07
0.667	41.04	9.59	0.729	O		I			3.37
0.750	51.57	10.15	0.980	O		I			3.77
0.833	73.95	10.77	1.340	O			I		4.23
0.917	107.73	11.54	1.889	O				I	4.84
1.000	99.82	12.26	2.521	O				I	5.46
1.083	63.24	12.77	2.997	O		I			5.91
1.167	38.78	13.03	3.259	O		I			6.15
1.250	24.29	13.15	3.386	O	I				6.27
1.333	17.13	13.20	3.438	O	I				6.31
1.417	12.72	13.21	3.450	O					6.32
1.500	9.60	13.19	3.436	IO					6.31
1.583	7.60	13.16	3.405	IO					6.28
1.667	5.86	13.12	3.360	IO					6.24
1.750	4.53	13.07	3.306	IO					6.19
1.833	3.41	13.01	3.243	IO					6.14
1.917	2.55	12.95	3.175	I	O				6.08
2.000	1.97	12.88	3.101	I	O				6.01
2.083	1.22	12.80	3.024	I	O				5.94
2.167	0.35	12.71	2.941	I	O				5.86
2.250	0.11	12.62	2.856	I	O				5.78
2.333	0.00	12.53	2.769	I	O				5.70
2.417	0.00	12.44	2.683	I	O				5.62
2.500	0.00	12.35	2.598	I	O				5.54
2.583	0.00	12.26	2.513	I	O				5.46
2.667	0.00	12.17	2.429	I	O				5.38
2.750	0.00	12.08	2.346	I	O				5.30
2.833	0.00	11.99	2.263	I	O				5.22
2.917	0.00	11.90	2.181	I	O				5.14
3.000	0.00	11.81	2.099	I	O				5.07
3.083	0.00	11.72	2.018	I	O				4.99
3.167	0.00	11.61	1.938	I	O				4.90
3.250	0.00	11.50	1.858	I	O				4.81
3.333	0.00	11.39	1.779	I	O				4.72
3.417	0.00	11.28	1.701	I	O				4.63
3.500	0.00	11.17	1.624	I	O				4.55
3.583	0.00	11.06	1.547	I	O				4.46
3.667	0.00	10.96	1.471	I	O				4.38
3.750	0.00	10.85	1.396	I	O				4.30
3.833	0.00	10.75	1.322	I	O				4.21
3.917	0.00	10.65	1.248	I	O				4.13

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.000	0.00	10.54	1.175	I	O					4.05
4.083	0.00	10.42	1.103	I	O					3.96
4.167	0.00	10.26	1.032	I	O					3.85
4.250	0.00	10.11	0.962	I	O					3.74
4.333	0.00	9.95	0.893	I	O					3.63
4.417	0.00	9.80	0.825	I	O					3.52
4.500	0.00	9.65	0.758	I	O					3.42
4.583	0.00	9.51	0.692	I	O					3.32
4.667	0.00	9.36	0.627	I	O					3.21
4.750	0.00	9.22	0.563	I	O					3.11
4.833	0.00	9.08	0.500	I	O					3.02
4.917	0.00	8.82	0.438	I	O					2.86
5.000	0.00	8.54	0.378	I	O					2.69
5.083	0.00	8.26	0.320	I	O					2.53
5.167	0.00	8.00	0.264	I	O					2.37
5.250	0.00	7.75	0.210	I	O					2.22
5.333	0.00	7.50	0.158	I	O					2.08
5.417	0.00	6.96	0.108	I	O					1.82
5.500	0.00	6.12	0.063	IO						1.44
5.583	0.00	5.38	0.023	IO						1.11
5.667	0.00	0.89	0.002	O						0.17
5.750	0.00	0.00	0.000	O						0.00

```

*****HYDROGRAPH DATA*****
      Number of intervals =    69
      Time interval =      5.0 (Min.)
      Maximum/Peak flow rate =    13.207 (CFS)
      Total volume =      4.843 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
      Peak (CFS)    0.000    0.000    0.000    0.000    0.000
      Vol (Ac.Ft)   0.000    0.000    0.000    0.000    0.000
*****

```

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
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 Study date: 10/07/21

-----  
 KELLER CROSSING  
 Drainage Area B = 59.9 Ac  
 Detention Basin Routing Basin C  
 100-year 1-hour storm  
 -----

Program License Serial Number 4029  
 -----

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kxbprh1100.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 27  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 152.673 (CFS)  
 Total volume = 7.327 (Ac.Ft)  
 Status of hydrographs being held in storage  
 Stream 1 Stream 2 Stream 3 Stream 4 Stream 5  
 Peak (CFS) 0.000 0.000 0.000 0.000 0.000  
 Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 27  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.010	5.130	-0.008	0.028
2.000	0.130	7.370	0.105	0.155
3.000	0.490	9.060	0.459	0.521
4.000	1.130	10.480	1.094	1.166
5.000	2.030	11.740	1.990	2.070

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

6.000	3.090	12.870	3.046	3.134
7.000	4.200	13.910	4.152	4.248
8.000	5.390	14.880	5.339	5.441
9.000	6.650	15.780	6.596	6.704
10.000	7.990	16.650	7.933	8.047
11.000	9.390	17.460	9.330	9.450
12.000	10.870	18.240	10.807	10.933
13.000	12.430	108.990	12.055	12.805
14.000	14.060	274.260	13.116	15.004

-----  
 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)						Depth (Ft.)	
0.083	2.87	1.84	0.004	O		38.2	76.34	114.50	152.67	0.36
0.167	15.23	5.69	0.040	O I						1.25
0.250	28.60	7.44	0.146	O I						2.04
0.333	37.11	8.25	0.318	O I						2.52
0.417	43.28	9.16	0.535	O I						3.07
0.500	48.10	9.71	0.784	O I						3.46
0.583	54.67	10.35	1.069	O I						3.91
0.667	64.77	10.87	1.408	O I						4.31
0.750	78.78	11.45	1.825	O I						4.77
0.833	108.28	12.12	2.388	O I				I		5.34
0.917	152.67	12.97	3.200	O I					I	6.10
1.000	142.43	13.84	4.124	O I					I	6.93
1.083	93.80	14.43	4.840	O I			I			7.54
1.167	58.45	14.78	5.264	O I		I				7.89
1.250	36.13	14.95	5.487	O I		I				8.08
1.333	25.36	15.03	5.596	O I						8.16
1.417	18.80	15.06	5.644	O I						8.20
1.500	14.17	15.07	5.654	O IO						8.21
1.583	11.16	15.06	5.637	O IO						8.20
1.667	8.58	15.03	5.602	O IO						8.17
1.750	6.63	14.99	5.551	O IO						8.13
1.833	4.98	14.95	5.488	O IO						8.08
1.917	3.70	14.90	5.415	O IO						8.02
2.000	2.83	14.83	5.335	O IO						7.95
2.083	1.78	14.76	5.249	O IO						7.88
2.167	0.57	14.69	5.155	O IO						7.80
2.250	0.18	14.61	5.057	O IO						7.72
2.333	0.00	14.53	4.957	O IO						7.64
2.417	0.00	14.45	4.858	O IO						7.55
2.500	0.00	14.37	4.758	O IO						7.47
2.583	0.00	14.28	4.660	O IO						7.39
2.667	0.00	14.20	4.562	O IO						7.30
2.750	0.00	14.13	4.464	O IO						7.22
2.833	0.00	14.05	4.367	O IO						7.14
2.917	0.00	13.97	4.271	O IO						7.06
3.000	0.00	13.89	4.175	O IO						6.98
3.083	0.00	13.80	4.079	O IO						6.89
3.167	0.00	13.71	3.985	O IO						6.81
3.250	0.00	13.62	3.891	O IO						6.72
3.333	0.00	13.53	3.797	O IO						6.64
3.417	0.00	13.45	3.704	O IO						6.55
3.500	0.00	13.36	3.612	O IO						6.47
3.583	0.00	13.27	3.520	O IO						6.39
3.667	0.00	13.19	3.429	O IO						6.31
3.750	0.00	13.10	3.338	O IO						6.22
3.833	0.00	13.02	3.249	O IO						6.14

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

3.917	0.00	12.93	3.159	I O					6.06
4.000	0.00	12.85	3.070	I O					5.98
4.083	0.00	12.76	2.982	I O					5.90
4.167	0.00	12.66	2.895	I O					5.82
4.250	0.00	12.57	2.808	I O					5.73
4.333	0.00	12.48	2.722	I O					5.65
4.417	0.00	12.39	2.636	I O					5.57
4.500	0.00	12.30	2.551	I O					5.49
4.583	0.00	12.21	2.467	I O					5.41
4.667	0.00	12.12	2.383	I O					5.33
4.750	0.00	12.03	2.300	I O					5.25
4.833	0.00	11.94	2.217	I O					5.18
4.917	0.00	11.85	2.135	I O					5.10
5.000	0.00	11.77	2.054	I O					5.02
5.083	0.00	11.66	1.973	I O					4.94
5.167	0.00	11.55	1.893	I O					4.85
5.250	0.00	11.44	1.814	I O					4.76
5.333	0.00	11.33	1.736	I O					4.67
5.417	0.00	11.22	1.658	I O					4.59
5.500	0.00	11.11	1.581	I O					4.50
5.583	0.00	11.01	1.505	I O					4.42
5.667	0.00	10.90	1.430	I O					4.33
5.750	0.00	10.79	1.355	I O					4.25
5.833	0.00	10.69	1.281	I O					4.17
5.917	0.00	10.59	1.208	I O					4.09
6.000	0.00	10.49	1.135	I O					4.01
6.083	0.00	10.33	1.063	I O					3.90
6.167	0.00	10.18	0.993	I O					3.79
6.250	0.00	10.02	0.923	I O					3.68
6.333	0.00	9.87	0.855	I O					3.57
6.417	0.00	9.72	0.787	I O					3.46
6.500	0.00	9.57	0.721	I O					3.36
6.583	0.00	9.43	0.655	IO					3.26
6.667	0.00	9.28	0.591	IO					3.16
6.750	0.00	9.14	0.528	IO					3.06
6.833	0.00	8.94	0.465	IO					2.93
6.917	0.00	8.66	0.405	IO					2.76
7.000	0.00	8.38	0.346	IO					2.60
7.083	0.00	8.12	0.289	IO					2.44
7.167	0.00	7.86	0.234	IO					2.29
7.250	0.00	7.61	0.181	IO					2.14
7.333	0.00	7.36	0.129	IO					1.99
7.417	0.00	6.47	0.082	IO					1.60
7.500	0.00	5.69	0.040	IO					1.25
7.583	0.00	3.76	0.007	O					0.73
7.667	0.00	0.00	0.000	O					0.00

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
Number of intervals = 92  
Time interval = 5.0 (Min.)  
Maximum/Peak flow rate = 15.068 (CFS)  
Total volume = 7.333 (Ac.Ft)  
Status of hydrographs being held in storage  
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5  
Peak (CFS) 0.000 0.000 0.000 0.000 0.000  
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000  
\*\*\*\*\*

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 10/07/21

```
-----
KELLER CROSSING
Drainage Area B = 59.9 Ac
Detention Basin Routing Basin C
100-year 3-hour storm
-----
```

Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

```

From study/file name: kxbprh3100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 51
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 102.586 (CFS)
Total volume = 9.812 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

```

```

+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

```

User entry of depth-outflow-storage data

```
-----
Total number of inflow hydrograph intervals = 51
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
-----
```

```
-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.010	5.130	-0.008	0.028
2.000	0.130	7.370	0.105	0.155
3.000	0.490	9.060	0.459	0.521

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.000	1.130	10.480	1.094	1.166
5.000	2.030	11.740	1.990	2.070
6.000	3.090	12.870	3.046	3.134
7.000	4.200	13.910	4.152	4.248
8.000	5.390	14.880	5.339	5.441
9.000	6.650	15.780	6.596	6.704
10.000	7.990	16.650	7.933	8.047
11.000	9.390	17.460	9.330	9.450
12.000	10.870	18.240	10.807	10.933
13.000	12.430	108.990	12.055	12.805
14.000	14.060	274.260	13.116	15.004

-----  
 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	25.6	51.29	76.94	102.59	Depth (Ft.)
0.083	0.97	0.62	0.001	O					0.12
0.167	5.11	3.71	0.007	IO					0.72
0.250	9.06	5.40	0.025	IOI					1.12
0.333	10.31	5.92	0.052	IOI					1.35
0.417	12.23	6.57	0.087	IOI					1.64
0.500	14.75	7.38	0.132	IOI					2.01
0.583	16.92	7.65	0.189	IOI					2.16
0.667	17.91	7.96	0.255	IOI					2.35
0.750	18.97	8.29	0.326	IOI					2.55
0.833	20.17	8.65	0.403	IOI					2.76
0.917	19.63	9.01	0.479	IOI					2.97
1.000	19.36	9.19	0.551	IOI					3.09
1.083	20.99	9.36	0.626	IOI					3.21
1.167	24.00	9.56	0.716	IOI					3.35
1.250	26.44	9.80	0.823	IOI					3.52
1.333	27.32	10.06	0.939	IOI					3.70
1.417	27.65	10.32	1.059	IOI					3.89
1.500	30.11	10.56	1.186	IOI					4.06
1.583	33.05	10.76	1.330	IOI					4.22
1.667	33.67	10.98	1.485	IOI					4.39
1.750	35.21	11.20	1.645	IOI					4.57
1.833	39.28	11.45	1.824	IOI		I			4.77
1.917	41.71	11.73	2.023	IOI		I			4.99
2.000	41.54	11.95	2.228	IOI		I			5.19
2.083	41.72	12.17	2.432	IOI		I			5.38
2.167	43.99	12.39	2.642	IOI		I			5.58
2.250	50.98	12.65	2.883	IOI		I			5.80
2.333	58.85	12.95	3.173	IOI		I			6.07
2.417	61.72	13.25	3.498	IOI		I			6.37
2.500	73.91	13.60	3.873	IOI		I			6.71
2.583	92.03	14.03	4.349	IOI		I		I	7.13
2.667	102.59	14.50	4.921	IOI		I		I	7.61
2.750	96.04	14.96	5.503	IOI		I		I	8.09
2.833	70.92	15.30	5.974	IOI		I		I	8.46
2.917	49.69	15.52	6.283	IOI		I		I	8.71
3.000	39.21	15.66	6.482	IOI		I		I	8.87
3.083	28.41	15.75	6.607	IOI		I		I	8.97
3.167	18.68	15.79	6.660	IOI		I		I	9.01
3.250	13.21	15.79	6.661	IOI		I		I	9.01
3.333	9.97	15.77	6.632	IOI		I		I	8.99
3.417	7.66	15.73	6.585	IOI		I		I	8.95
3.500	5.75	15.69	6.523	IOI		I		I	8.90
3.583	4.32	15.64	6.449	IOI		I		I	8.84
3.667	3.30	15.58	6.368	IOI		I		I	8.78

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

3.750	2.34	15.52	6.281	I	O					8.71
3.833	1.53	15.45	6.187	I	O					8.63
3.917	0.80	15.38	6.089	I	O					8.55
4.000	0.36	15.31	5.987	I	O					8.47
4.083	0.22	15.23	5.884	I	O					8.39
4.167	0.10	15.16	5.781	I	O					8.31
4.250	0.01	15.08	5.677	I	O					8.23
4.333	0.00	15.01	5.573	I	O					8.15
4.417	0.00	14.94	5.470	I	O					8.06
4.500	0.00	14.86	5.368	I	O					7.98
4.583	0.00	14.78	5.266	I	O					7.90
4.667	0.00	14.70	5.164	I	O					7.81
4.750	0.00	14.61	5.063	I	O					7.73
4.833	0.00	14.53	4.963	I	O					7.64
4.917	0.00	14.45	4.863	I	O					7.56
5.000	0.00	14.37	4.764	I	O					7.47
5.083	0.00	14.29	4.665	I	O					7.39
5.167	0.00	14.21	4.567	I	O					7.31
5.250	0.00	14.13	4.469	I	O					7.23
5.333	0.00	14.05	4.372	I	O					7.14
5.417	0.00	13.97	4.276	I	O					7.06
5.500	0.00	13.89	4.180	I	O					6.98
5.583	0.00	13.80	4.084	I	O					6.90
5.667	0.00	13.71	3.990	I	O					6.81
5.750	0.00	13.62	3.896	I	O					6.73
5.833	0.00	13.54	3.802	I	O					6.64
5.917	0.00	13.45	3.709	I	O					6.56
6.000	0.00	13.36	3.617	I	O					6.47
6.083	0.00	13.28	3.525	I	O					6.39
6.167	0.00	13.19	3.434	I	O					6.31
6.250	0.00	13.11	3.343	I	O					6.23
6.333	0.00	13.02	3.253	I	O					6.15
6.417	0.00	12.94	3.164	I	O					6.07
6.500	0.00	12.85	3.075	I	O					5.99
6.583	0.00	12.76	2.987	I	O					5.90
6.667	0.00	12.67	2.899	I	O					5.82
6.750	0.00	12.57	2.812	I	O					5.74
6.833	0.00	12.48	2.726	I	O					5.66
6.917	0.00	12.39	2.641	I	O					5.58
7.000	0.00	12.30	2.556	I	O					5.50
7.083	0.00	12.21	2.471	I	O					5.42
7.167	0.00	12.12	2.387	I	O					5.34
7.250	0.00	12.03	2.304	I	O					5.26
7.333	0.00	11.94	2.222	I	O					5.18
7.417	0.00	11.86	2.140	I	O					5.10
7.500	0.00	11.77	2.058	I	O					5.03
7.583	0.00	11.67	1.978	I	O					4.94
7.667	0.00	11.55	1.898	I	O					4.85
7.750	0.00	11.44	1.818	I	O					4.76
7.833	0.00	11.33	1.740	I	O					4.68
7.917	0.00	11.23	1.662	I	O					4.59
8.000	0.00	11.12	1.585	I	O					4.51
8.083	0.00	11.01	1.509	I	O					4.42
8.167	0.00	10.91	1.434	I	O					4.34
8.250	0.00	10.80	1.359	I	O					4.25
8.333	0.00	10.70	1.285	I	O					4.17
8.417	0.00	10.59	1.212	I	O					4.09
8.500	0.00	10.49	1.139	I	O					4.01
8.583	0.00	10.34	1.067	I	O					3.90
8.667	0.00	10.18	0.997	I	O					3.79
8.750	0.00	10.03	0.927	I	O					3.68
8.833	0.00	9.88	0.858	I	O					3.58
8.917	0.00	9.73	0.791	I	O					3.47

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

9.000	0.00	9.58	0.724	I O					3.37
9.083	0.00	9.43	0.659	I O					3.26
9.167	0.00	9.29	0.594	I O					3.16
9.250	0.00	9.15	0.531	I O					3.06
9.333	0.00	8.96	0.469	I O					2.94
9.417	0.00	8.67	0.408	I O					2.77
9.500	0.00	8.40	0.349	I O					2.61
9.583	0.00	8.13	0.292	I O					2.45
9.667	0.00	7.87	0.237	I O					2.30
9.750	0.00	7.62	0.184	I O					2.15
9.833	0.00	7.38	0.132	I O					2.01
9.917	0.00	6.51	0.084	I O					1.62
10.000	0.00	5.73	0.042	IO					1.27
10.083	0.00	4.13	0.008	IO					0.81
10.167	0.00	0.00	0.000	O					0.00

```

*****HYDROGRAPH DATA*****
      Number of intervals = 122
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 15.787 (CFS)
      Total volume = 9.818 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

```

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 10/07/21

```
-----
KELLER CROSSING
Drainage Area B = 59.9 Ac
Detention Basin Routing Basin C
100-year 6-hour storm
-----
```

Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

```

From study/file name: kxbprh6100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 87
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 91.965 (CFS)
Total volume = 12.230 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

```

```

+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

```

User entry of depth-outflow-storage data

```
-----
Total number of inflow hydrograph intervals = 87
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
-----
```

```
-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.010	5.130	-0.008	0.028
2.000	0.130	7.370	0.105	0.155
3.000	0.490	9.060	0.459	0.521
4.000	1.130	10.480	1.094	1.166
5.000	2.030	11.740	1.990	2.070
6.000	3.090	12.870	3.046	3.134
7.000	4.200	13.910	4.152	4.248

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

8.000	5.390	14.880	5.339	5.441
9.000	6.650	15.780	6.596	6.704
10.000	7.990	16.650	7.933	8.047
11.000	9.390	17.460	9.330	9.450
12.000	10.870	18.240	10.807	10.933
13.000	12.430	108.990	12.055	12.805
14.000	14.060	274.260	13.116	15.004

-----  
 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	23.0	45.98	68.97	91.97	Depth (Ft.)
0.083	0.28	0.18	0.000	O					0.03
0.167	1.61	1.15	0.002	O					0.22
0.250	3.44	2.91	0.006	IO					0.57
0.333	4.60	4.33	0.008	IO					0.84
0.417	5.15	5.03	0.010	IO					0.98
0.500	5.65	5.17	0.012	IO					1.02
0.583	6.54	5.28	0.018	IOI					1.07
0.667	7.37	5.48	0.029	IOI					1.16
0.750	7.78	5.73	0.042	IOI					1.27
0.833	8.03	6.00	0.056	IO					1.39
0.917	8.22	6.25	0.070	IO					1.50
1.000	8.52	6.51	0.084	IO					1.62
1.083	9.28	6.80	0.099	IOI					1.74
1.167	10.01	7.14	0.118	IOI					1.90
1.250	10.36	7.41	0.138	IOI					2.02
1.333	10.56	7.50	0.158	IOI					2.08
1.417	10.70	7.60	0.180	IOI					2.14
1.500	10.79	7.70	0.201	IOI					2.20
1.583	10.86	7.80	0.222	IOI					2.26
1.667	10.91	7.90	0.243	IOI					2.31
1.750	10.96	8.00	0.264	IOI					2.37
1.833	10.98	8.09	0.284	IOI					2.43
1.917	11.00	8.18	0.303	IOI					2.48
2.000	11.17	8.28	0.323	IOI					2.54
2.083	11.68	8.38	0.344	IOI					2.60
2.167	11.85	8.48	0.367	IOI					2.66
2.250	12.13	8.60	0.391	IOI					2.73
2.333	12.66	8.72	0.417	IOI					2.80
2.417	12.89	8.85	0.444	IOI					2.87
2.500	13.02	8.98	0.472	IOI					2.95
2.583	13.10	9.08	0.500	IOI					3.02
2.667	13.16	9.14	0.528	IOI					3.06
2.750	13.36	9.21	0.556	IOI					3.10
2.833	14.05	9.27	0.587	IOI					3.15
2.917	14.73	9.35	0.622	IOI					3.21
3.000	15.03	9.44	0.659	IOI					3.26
3.083	15.20	9.52	0.698	IOI					3.33
3.167	15.47	9.61	0.738	IOI					3.39
3.250	16.21	9.70	0.781	IOI					3.45
3.333	16.92	9.81	0.827	IOI					3.53
3.417	17.40	9.92	0.878	IOI					3.61
3.500	18.39	10.04	0.932	IOI					3.69
3.583	19.98	10.18	0.995	IOI					3.79
3.667	21.66	10.34	1.067	IOI					3.90
3.750	22.97	10.51	1.149	IOI					4.02
3.833	24.21	10.63	1.239	IOI					4.12
3.917	25.39	10.77	1.336	IOI					4.23
4.000	26.59	10.91	1.440	IOI					4.34

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.083	27.74	11.07	1.552		O		I					4.47
4.167	29.08	11.24	1.671		O		I					4.60
4.250	30.88	11.42	1.799		O		I					4.74
4.333	32.87	11.61	1.939		O		I					4.90
4.417	34.95	11.81	2.092		O		I					5.06
4.500	36.93	11.98	2.258		O		I					5.21
4.583	38.45	12.17	2.434		O		I					5.38
4.667	40.01	12.37	2.620		O		I					5.56
4.750	41.96	12.58	2.816		O		I					5.74
4.833	43.90	12.80	3.025		O		I					5.94
4.917	45.40	13.01	3.243		O		I					6.14
5.000	46.94	13.23	3.471		O		I					6.34
5.083	49.49	13.45	3.711		O		I					6.56
5.167	54.79	13.70	3.977		O		I					6.80
5.250	62.47	13.98	4.285		O		I					7.07
5.333	70.00	14.27	4.644		O		I					7.37
5.417	77.15	14.60	5.051		O		I			I		7.72
5.500	86.10	14.97	5.512		O		I			I		8.10
5.583	91.97	15.33	6.020		O		I			I		8.50
5.667	75.21	15.67	6.489		O		I			I		8.87
5.750	48.41	15.88	6.806		O		I			I		9.12
5.833	32.23	15.99	6.974		O		I			I		9.24
5.917	23.07	16.04	7.054		O		I			I		9.30
6.000	16.91	16.06	7.081		O		I			I		9.32
6.083	12.51	16.05	7.072		O		I			I		9.32
6.167	9.29	16.03	7.037		O		I			I		9.29
6.250	7.03	16.00	6.983		O		I			I		9.25
6.333	5.32	15.95	6.915		O		I			I		9.20
6.417	4.00	15.90	6.838		O		I			I		9.14
6.500	2.93	15.85	6.752		O		I			I		9.08
6.583	2.09	15.79	6.660		O		I			I		9.01
6.667	1.46	15.72	6.564		O		I			I		8.93
6.750	0.84	15.65	6.464		O		I			I		8.85
6.833	0.30	15.57	6.360		O		I			I		8.77
6.917	0.13	15.50	6.255		O		I			I		8.69
7.000	0.06	15.42	6.149		O		I			I		8.60
7.083	0.03	15.35	6.044		O		I			I		8.52
7.167	0.01	15.27	5.938		O		I			I		8.44
7.250	0.00	15.20	5.833		O		I			I		8.35
7.333	0.00	15.12	5.729		O		I			I		8.27
7.417	0.00	15.05	5.625		O		I			I		8.19
7.500	0.00	14.97	5.522		O		I			I		8.10
7.583	0.00	14.90	5.419		O		I			I		8.02
7.667	0.00	14.82	5.316		O		I			I		7.94
7.750	0.00	14.74	5.215		O		I			I		7.85
7.833	0.00	14.65	5.113		O		I			I		7.77
7.917	0.00	14.57	5.013		O		I			I		7.68
8.000	0.00	14.49	4.913		O		I			I		7.60
8.083	0.00	14.41	4.813		O		I			I		7.52
8.167	0.00	14.33	4.714		O		I			I		7.43
8.250	0.00	14.25	4.616		O		I			I		7.35
8.333	0.00	14.17	4.518		O		I			I		7.27
8.417	0.00	14.09	4.421		O		I			I		7.19
8.500	0.00	14.01	4.324		O		I			I		7.10
8.583	0.00	13.93	4.228		O		I			I		7.02
8.667	0.00	13.85	4.132		O		I			I		6.94
8.750	0.00	13.76	4.037		O		I			I		6.85
8.833	0.00	13.67	3.943		O		I			I		6.77
8.917	0.00	13.58	3.849		O		I			I		6.68
9.000	0.00	13.49	3.755		O		I			I		6.60
9.083	0.00	13.41	3.663		O		I			I		6.52
9.167	0.00	13.32	3.571		O		I			I		6.43
9.250	0.00	13.23	3.479		O		I			I		6.35

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

9.333	0.00	13.15	3.389	I	O					6.27
9.417	0.00	13.07	3.298	I	O					6.19
9.500	0.00	12.98	3.209	I	O					6.11
9.583	0.00	12.90	3.119	I	O					6.03
9.667	0.00	12.81	3.031	I	O					5.94
9.750	0.00	12.71	2.943	I	O					5.86
9.833	0.00	12.62	2.856	I	O					5.78
9.917	0.00	12.53	2.769	I	O					5.70
10.000	0.00	12.44	2.683	I	O					5.62
10.083	0.00	12.35	2.598	I	O					5.54
10.167	0.00	12.26	2.513	I	O					5.46
10.250	0.00	12.17	2.429	I	O					5.38
10.333	0.00	12.08	2.346	I	O					5.30
10.417	0.00	11.99	2.263	I	O					5.22
10.500	0.00	11.90	2.180	I	O					5.14
10.583	0.00	11.81	2.099	I	O					5.06
10.667	0.00	11.72	2.018	I	O					4.99
10.750	0.00	11.61	1.937	I	O					4.90
10.833	0.00	11.50	1.858	I	O					4.81
10.917	0.00	11.39	1.779	I	O					4.72
11.000	0.00	11.28	1.701	I	O					4.63
11.083	0.00	11.17	1.624	I	O					4.55
11.167	0.00	11.06	1.547	I	O					4.46
11.250	0.00	10.96	1.471	I	O					4.38
11.333	0.00	10.85	1.396	I	O					4.30
11.417	0.00	10.75	1.322	I	O					4.21
11.500	0.00	10.65	1.248	I	O					4.13
11.583	0.00	10.54	1.175	I	O					4.05
11.667	0.00	10.42	1.103	I	O					3.96
11.750	0.00	10.26	1.032	I	O					3.85
11.833	0.00	10.11	0.962	I	O					3.74
11.917	0.00	9.95	0.893	I	O					3.63
12.000	0.00	9.80	0.825	I	O					3.52
12.083	0.00	9.65	0.758	I	O					3.42
12.167	0.00	9.51	0.692	I	O					3.31
12.250	0.00	9.36	0.627	I	O					3.21
12.333	0.00	9.22	0.563	I	O					3.11
12.417	0.00	9.08	0.500	I	O					3.01
12.500	0.00	8.82	0.438	I	O					2.86
12.583	0.00	8.53	0.378	I	O					2.69
12.667	0.00	8.26	0.320	I	O					2.53
12.750	0.00	8.00	0.264	I	O					2.37
12.833	0.00	7.75	0.210	I	O					2.22
12.917	0.00	7.50	0.158	I	O					2.08
13.000	0.00	6.96	0.108	I	O					1.82
13.083	0.00	6.12	0.063	I	O					1.44
13.167	0.00	5.38	0.023	I	O					1.11
13.250	0.00	0.87	0.002	O						0.17
13.333	0.00	0.00	0.000	O						0.00

```

*****HYDROGRAPH DATA*****
      Number of intervals = 160
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 16.060 (CFS)
      Total volume = 12.231 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 10/07/21

-----  
 KELLER CROSSING  
 Drainage Area B = 59.9 Ac  
 Detention Basin Routing Basin C  
 100-year 24-hour storm  
 -----

Program License Serial Number 4029

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 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kxbprh24100.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 303  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 40.754 (CFS)  
 Total volume = 18.419 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 303  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:  
 Basin Depth  Storage  Outflow  (S-O\*dt/2)  (S+O\*dt/2)  
           (Ft.)  (Ac.Ft)  (CFS)  (Ac.Ft)  (Ac.Ft)  
 -----

0.000	0.000	0.000	0.000	0.000
1.000	0.010	5.130	-0.008	0.028
2.000	0.130	7.370	0.105	0.155

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

3.000	0.490	9.060	0.459	0.521
4.000	1.130	10.480	1.094	1.166
5.000	2.030	11.740	1.990	2.070
6.000	3.090	12.870	3.046	3.134
7.000	4.200	13.910	4.152	4.248
8.000	5.390	14.880	5.339	5.441
9.000	6.650	15.780	6.596	6.704
10.000	7.990	16.650	7.933	8.047
11.000	9.390	17.460	9.330	9.450
12.000	10.870	18.240	10.807	10.933
13.000	12.430	108.990	12.055	12.805
14.000	14.060	274.260	13.116	15.004

-----  
 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage					Depth (Ft.)	
			(Ac.Ft)	.0	10.2	20.38	30.57		40.75
0.083	0.05	0.03	0.000	O					0.01
0.167	0.24	0.17	0.000	O					0.03
0.250	0.43	0.38	0.001	O					0.07
0.333	0.54	0.51	0.001	O					0.10
0.417	0.68	0.63	0.001	O					0.12
0.500	0.81	0.77	0.002	O					0.15
0.583	0.87	0.86	0.002	O					0.17
0.667	0.91	0.90	0.002	O					0.18
0.750	0.94	0.93	0.002	O					0.18
0.833	0.98	0.97	0.002	O					0.19
0.917	1.09	1.06	0.002	O					0.21
1.000	1.20	1.17	0.002	O					0.23
1.083	1.23	1.23	0.002	O					0.24
1.167	1.16	1.19	0.002	O					0.23
1.250	1.09	1.11	0.002	O					0.22
1.333	1.07	1.07	0.002	O					0.21
1.417	1.05	1.06	0.002	O					0.21
1.500	1.05	1.05	0.002	O					0.20
1.583	1.04	1.04	0.002	O					0.20
1.667	1.04	1.04	0.002	O					0.20
1.750	1.03	1.03	0.002	O					0.20
1.833	1.05	1.05	0.002	O					0.20
1.917	1.15	1.12	0.002	O					0.22
2.000	1.24	1.22	0.002	O					0.24
2.083	1.28	1.28	0.002	IO					0.25
2.167	1.30	1.30	0.003	IO					0.25
2.250	1.32	1.31	0.003	IO					0.26
2.333	1.33	1.32	0.003	IO					0.26
2.417	1.34	1.33	0.003	IO					0.26
2.500	1.34	1.34	0.003	IO					0.26
2.583	1.37	1.36	0.003	IO					0.27
2.667	1.47	1.44	0.003	IO					0.28
2.750	1.57	1.54	0.003	IO					0.30
2.833	1.61	1.61	0.003	IO					0.31
2.917	1.64	1.63	0.003	IO					0.32
3.000	1.66	1.65	0.003	IO					0.32
3.083	1.67	1.66	0.003	IO					0.32
3.167	1.68	1.67	0.003	IO					0.33
3.250	1.68	1.68	0.003	IO					0.33
3.333	1.69	1.69	0.003	IO					0.33
3.417	1.69	1.69	0.003	IO					0.33
3.500	1.69	1.69	0.003	IO					0.33
3.583	1.70	1.70	0.003	IO					0.33

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

3.667	1.70	1.70	0.003	O					0.33
3.750	1.70	1.70	0.003	O					0.33
3.833	1.72	1.72	0.003	O					0.33
3.917	1.82	1.79	0.003	O					0.35
4.000	1.92	1.89	0.004	O					0.37
4.083	1.96	1.95	0.004	O					0.38
4.167	1.98	1.98	0.004	O					0.39
4.250	2.00	1.99	0.004	O					0.39
4.333	2.03	2.02	0.004	O					0.39
4.417	2.14	2.10	0.004	O					0.41
4.500	2.24	2.21	0.004	O					0.43
4.583	2.28	2.28	0.004	O					0.44
4.667	2.31	2.30	0.004	O					0.45
4.750	2.33	2.32	0.005	O					0.45
4.833	2.37	2.35	0.005	O					0.46
4.917	2.47	2.44	0.005	O					0.48
5.000	2.58	2.55	0.005	O					0.50
5.083	2.58	2.59	0.005	O					0.50
5.167	2.41	2.47	0.005	O					0.48
5.250	2.24	2.29	0.004	O					0.45
5.333	2.19	2.20	0.004	O					0.43
5.417	2.25	2.23	0.004	O					0.43
5.500	2.33	2.31	0.004	O					0.45
5.583	2.38	2.36	0.005	O					0.46
5.667	2.48	2.45	0.005	O					0.48
5.750	2.59	2.56	0.005	O					0.50
5.833	2.63	2.62	0.005	O					0.51
5.917	2.65	2.65	0.005	O					0.52
6.000	2.67	2.67	0.005	O					0.52
6.083	2.71	2.70	0.005	O					0.53
6.167	2.84	2.80	0.005	O					0.55
6.250	2.98	2.94	0.006	O					0.57
6.333	3.06	3.04	0.006	O					0.59
6.417	3.13	3.11	0.006	O					0.61
6.500	3.19	3.17	0.006	O					0.62
6.583	3.33	3.29	0.006	O					0.64
6.667	3.79	3.64	0.007	O					0.71
6.750	4.24	4.12	0.008	O					0.80
6.833	4.46	4.41	0.009	O					0.86
6.917	4.60	4.56	0.009	O					0.89
7.000	4.71	4.68	0.009	O					0.91
7.083	4.80	4.77	0.009	O					0.93
7.167	4.87	4.85	0.009	O					0.95
7.250	4.94	4.92	0.010	O					0.96
7.333	5.10	5.05	0.010	O I					0.98
7.417	5.56	5.16	0.011	O					1.01
7.500	6.02	5.23	0.016	O					1.05
7.583	6.34	5.35	0.022	O					1.10
7.667	6.88	5.50	0.030	O I					1.17
7.750	7.40	5.70	0.040	O I					1.25
7.833	7.76	5.92	0.053	O I					1.35
7.917	8.33	6.18	0.066	O I					1.47
8.000	8.86	6.47	0.082	O I					1.60
8.083	9.33	6.79	0.099	O I					1.74
8.167	10.32	7.16	0.119	O I					1.90
8.250	11.27	7.43	0.143	O I					2.04
8.333	11.73	7.56	0.170	O I					2.11
8.417	12.02	7.70	0.199	O I					2.19
8.500	12.23	7.84	0.229	O I					2.28
8.583	12.50	7.98	0.260	O I					2.36
8.667	13.03	8.13	0.293	O I					2.45
8.750	13.55	8.30	0.328	O I					2.55
8.833	13.91	8.47	0.364	O I					2.65

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

8.917	14.49	8.65	0.403		O		I				2.76
9.000	15.03	8.85	0.445		O		I				2.87
9.083	15.50	9.05	0.488		O		I				2.99
9.167	16.48	9.16	0.535		O		I				3.07
9.250	17.44	9.28	0.589		O		I				3.15
9.333	17.99	9.41	0.646		O		I				3.24
9.417	18.67	9.54	0.707		O		I				3.34
9.500	19.28	9.69	0.772		O		I				3.44
9.583	19.71	9.83	0.839		O		I				3.55
9.667	20.34	9.99	0.909		O		I				3.65
9.750	20.92	10.15	0.981		O		I				3.77
9.833	21.32	10.32	1.056		O		I				3.88
9.917	21.93	10.49	1.134		O		I				4.00
10.000	22.50	10.60	1.214		O		I				4.09
10.083	22.14	10.71	1.294		O		I				4.18
10.167	19.53	10.81	1.364		O		I				4.26
10.250	16.86	10.88	1.414		O		I				4.32
10.333	15.78	10.93	1.452		O		I				4.36
10.417	15.23	10.97	1.483		O		I				4.39
10.500	14.86	11.01	1.511		O		I				4.42
10.583	15.08	11.05	1.538		O		I				4.45
10.667	16.90	11.10	1.572		O		I				4.49
10.750	18.80	11.16	1.618		O		I				4.54
10.833	19.56	11.24	1.673		O		I				4.60
10.917	19.95	11.32	1.731		O		I				4.67
11.000	20.23	11.41	1.792		O		I				4.74
11.083	20.34	11.49	1.852		O		I				4.80
11.167	20.09	11.58	1.912		O		I				4.87
11.250	19.80	11.66	1.970		O		I				4.93
11.333	19.73	11.73	2.025		O		I				4.99
11.417	19.76	11.79	2.080		O		I				5.05
11.500	19.80	11.85	2.135		O		I				5.10
11.583	19.65	11.91	2.189		O		I				5.15
11.667	18.88	11.96	2.239		O		I				5.20
11.750	18.12	12.01	2.284		O		I				5.24
11.833	17.91	12.06	2.325		O		I				5.28
11.917	18.15	12.10	2.367		O		I				5.32
12.000	18.44	12.14	2.409		O		I				5.36
12.083	19.20	12.19	2.455		O		I				5.40
12.167	22.07	12.25	2.513		O		I				5.46
12.250	24.94	12.34	2.590		O		I				5.53
12.333	26.26	12.43	2.681		O		I				5.61
12.417	27.35	12.54	2.780		O		I				5.71
12.500	28.24	12.65	2.884		O		I				5.81
12.583	28.96	12.77	2.994		O		I				5.91
12.667	30.14	12.89	3.109		O		I				6.02
12.750	31.22	13.00	3.231		O		I				6.13
12.833	31.89	13.12	3.358		O		I				6.24
12.917	32.67	13.24	3.490		O		I				6.36
13.000	33.36	13.37	3.626		O		I				6.48
13.083	34.23	13.50	3.766		O		I				6.61
13.167	36.50	13.64	3.916		O		I		I		6.74
13.250	38.74	13.80	4.081		O		I		I		6.89
13.333	39.76	13.96	4.255		O		I		I		7.05
13.417	40.34	14.10	4.435		O		I		I		7.20
13.500	40.75	14.25	4.616		O		I		I		7.35
13.583	40.03	14.40	4.796		O		I		I		7.50
13.667	35.85	14.53	4.957		O		I		I		7.64
13.750	31.59	14.63	5.089		O		I		I		7.75
13.833	29.87	14.72	5.200		O		I		I		7.84
13.917	28.97	14.81	5.301		O		I		I		7.93
14.000	28.36	14.88	5.396		O		I		I		8.00
14.083	28.31	14.95	5.488		O		I		I		8.08

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

14.167	29.61	15.02	5.585			O		I		8.15
14.250	31.01	15.09	5.690			O		I		8.24
14.333	31.42	15.17	5.800			O		I		8.33
14.417	31.24	15.25	5.911			O		I		8.41
14.500	30.98	15.33	6.020			O		I		8.50
14.583	30.91	15.41	6.128			O		I		8.59
14.667	30.91	15.48	6.234			O		I		8.67
14.750	30.89	15.56	6.340			O		I		8.75
14.833	30.81	15.63	6.445			O		I		8.84
14.917	30.47	15.71	6.548			O		I		8.92
15.000	30.12	15.78	6.648			O		I		9.00
15.083	29.91	15.84	6.746			O		I		9.07
15.167	29.45	15.90	6.841			O		I		9.14
15.250	29.03	15.96	6.933			O		I		9.21
15.333	28.76	16.02	7.022			O		I		9.28
15.417	28.25	16.08	7.108			O		I		9.34
15.500	27.78	16.13	7.190			O		I		9.40
15.583	27.19	16.18	7.268			O		I		9.46
15.667	25.46	16.23	7.337			O		I		9.51
15.750	23.77	16.26	7.395			O		I		9.56
15.833	23.04	16.30	7.444			O		I		9.59
15.917	22.63	16.32	7.489			O		I		9.63
16.000	22.36	16.35	7.532			O		I		9.66
16.083	20.82	16.38	7.568			O		I		9.68
16.167	14.95	16.38	7.578			IO				9.69
16.250	9.08	16.36	7.548		I	O				9.67
16.333	6.55	16.32	7.489		I	O				9.63
16.417	5.15	16.28	7.417		I	O				9.57
16.500	4.17	16.23	7.337		I	O				9.51
16.583	3.44	16.17	7.252		I	O				9.45
16.667	2.82	16.11	7.162		I	O				9.38
16.750	2.34	16.05	7.069		I	O				9.31
16.833	1.96	15.99	6.974		I	O				9.24
16.917	1.70	15.93	6.877		I	O				9.17
17.000	1.50	15.86	6.778		I	O				9.10
17.083	1.41	15.80	6.679		I	O				9.02
17.167	1.59	15.73	6.581		I	O				8.95
17.250	1.78	15.66	6.484		I	O				8.87
17.333	1.84	15.59	6.389		I	O				8.79
17.417	1.93	15.53	6.295		I	O				8.72
17.500	1.99	15.46	6.202		I	O				8.64
17.583	2.05	15.39	6.110		I	O				8.57
17.667	2.09	15.33	6.018		I	O				8.50
17.750	2.13	15.26	5.927		I	O				8.43
17.833	2.11	15.20	5.837		I	O				8.35
17.917	1.88	15.13	5.746		I	O				8.28
18.000	1.64	15.07	5.654		I	O				8.21
18.083	1.55	15.00	5.562		I	O				8.14
18.167	1.50	14.94	5.469		I	O				8.06
18.250	1.47	14.87	5.377		I	O				7.99
18.333	1.44	14.79	5.285		I	O				7.91
18.417	1.42	14.72	5.193		I	O				7.83
18.500	1.41	14.64	5.102		I	O				7.76
18.583	1.37	14.57	5.010		I	O				7.68
18.667	1.27	14.50	4.920		I	O				7.60
18.750	1.16	14.42	4.828		I	O				7.53
18.833	1.09	14.35	4.737		I	O				7.45
18.917	0.97	14.27	4.646		I	O				7.37
19.000	0.85	14.20	4.554		I	O				7.30
19.083	0.82	14.12	4.462		I	O				7.22
19.167	0.89	14.05	4.371		I	O				7.14
19.250	0.96	13.98	4.281		I	O				7.07
19.333	1.01	13.90	4.192		I	O				6.99

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

19.417	1.12	13.82	4.103	I		O				6.91
19.500	1.22	13.74	4.017	I		O				6.83
19.583	1.24	13.66	3.931	I		O				6.76
19.667	1.17	13.58	3.845	I		O				6.68
19.750	1.09	13.50	3.760	I		O				6.60
19.833	1.04	13.42	3.674	I		O				6.53
19.917	0.93	13.34	3.589	I		O				6.45
20.000	0.82	13.26	3.503	I		O				6.37
20.083	0.80	13.18	3.418	I		O				6.30
20.167	0.87	13.10	3.333	I		O				6.22
20.250	0.95	13.02	3.250	I		O				6.14
20.333	0.98	12.94	3.167	I		O				6.07
20.417	0.99	12.86	3.085	I		O				6.00
20.500	1.00	12.78	3.003	I		O				5.92
20.583	1.01	12.69	2.923	I		O				5.84
20.667	1.01	12.61	2.842	I		O				5.77
20.750	1.01	12.52	2.763	I		O				5.69
20.833	0.99	12.44	2.684	I		O				5.62
20.917	0.89	12.35	2.605	I		O				5.54
21.000	0.80	12.27	2.526	I		O				5.47
21.083	0.78	12.18	2.447	I		O				5.39
21.167	0.86	12.10	2.369	I		O				5.32
21.250	0.94	12.02	2.292	I		O				5.25
21.333	0.95	11.94	2.216	I		O				5.18
21.417	0.87	11.86	2.141	I		O				5.10
21.500	0.78	11.78	2.065	I		O				5.03
21.583	0.77	11.68	1.990	I		O				4.96
21.667	0.85	11.58	1.915	I		O				4.87
21.750	0.93	11.48	1.842	I		O				4.79
21.833	0.94	11.38	1.769	I		O				4.71
21.917	0.86	11.27	1.698	I		O				4.63
22.000	0.77	11.17	1.626	I		O				4.55
22.083	0.76	11.07	1.555	I		O				4.47
22.167	0.84	10.98	1.484	I		O				4.39
22.250	0.93	10.88	1.415	I		O				4.32
22.333	0.94	10.78	1.347	I		O				4.24
22.417	0.86	10.69	1.279	I		O				4.17
22.500	0.77	10.59	1.211	I		O				4.09
22.583	0.74	10.50	1.144	I		O				4.02
22.667	0.72	10.36	1.077	I		O				3.92
22.750	0.71	10.22	1.011	I		O				3.81
22.833	0.71	10.07	0.946	I		O				3.71
22.917	0.70	9.93	0.882	I		O				3.61
23.000	0.69	9.79	0.819	I		O				3.51
23.083	0.69	9.65	0.757	I		O				3.42
23.167	0.69	9.52	0.696	I		O				3.32
23.250	0.69	9.38	0.635	I		O				3.23
23.333	0.69	9.25	0.576	I		O				3.13
23.417	0.68	9.12	0.517	I		O				3.04
23.500	0.68	8.92	0.460	I		O				2.92
23.583	0.68	8.66	0.404	I		O				2.76
23.667	0.68	8.40	0.350	I		O				2.61
23.750	0.68	8.16	0.298	I		O				2.47
23.833	0.68	7.92	0.247	I		O				2.33
23.917	0.68	7.69	0.198	I		O				2.19
24.000	0.68	7.47	0.151	I		O				2.06
24.083	0.64	6.91	0.106	I		O				1.80
24.167	0.44	6.14	0.064	I		O				1.45
24.250	0.25	5.44	0.027	I		O				1.14
24.333	0.17	1.75	0.003	IO						0.34
24.417	0.12	0.00	0.000	O						0.00
24.500	0.09	0.22	0.000	O						0.04
24.583	0.07	0.04	0.000	O						0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

24.667	0.05	0.07	0.000	o					0.01
24.750	0.04	0.04	0.000	o					0.01
24.833	0.03	0.03	0.000	o					0.01
24.917	0.02	0.02	0.000	o					0.00
25.000	0.01	0.02	0.000	o					0.00
25.083	0.01	0.01	0.000	o					0.00
25.167	0.01	0.01	0.000	o					0.00
25.250	0.00	0.00	0.000	o					0.00
25.333	0.00	0.00	0.000	o					0.00

```

*****HYDROGRAPH DATA*****
      Number of intervals =   304
      Time interval =     5.0 (Min.)
      Maximum/Peak flow rate =    16.382 (CFS)
      Total volume =    18.421 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS)    0.000    0.000    0.000    0.000    0.000
      Vol (Ac.Ft)   0.000    0.000    0.000    0.000    0.000
*****

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Keller Crossing – Tract 38163  
ATTACHMENT E – Detention Basin Routing

# Detention Basin C

FLOOD HYDROGRAPH ROUTING PROGRAM  
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
Study date: 05/07/21

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KELLER CROSSING
Drainage Area C = 91.5 Ac
Detention Basin Routing Basin C
2-year 1-hour storm
-----
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Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

```

From study/file name: kx2prh12.rte
*****HYDROGRAPH DATA*****
Number of intervals = 18
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 79.811 (CFS)
Total volume = 2.770 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

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User entry of depth-outflow-storage data

```
-----
Total number of inflow hydrograph intervals = 18
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
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-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	20.0	39.91	59.86	79.81	Depth (Ft.)
0.083	3.90	0.02	0.013	OI					0.01
0.167	11.76	0.08	0.067	O	I				0.04
0.250	14.89	0.18	0.158	O	I				0.09
0.333	17.51	0.30	0.268	O	I				0.16
0.417	18.79	0.44	0.390	O	I				0.23
0.500	20.47	0.59	0.522	O	I				0.31
0.583	23.56	0.75	0.669	O	I				0.40
0.667	27.75	0.95	0.840	O	I				0.50
0.750	35.56	1.19	1.050	O		I			0.62
0.833	64.27	1.56	1.385	O			I		0.82
0.917	79.81	1.95	1.869	O				I	1.08
1.000	40.78	2.03	2.270	O		I			1.27
1.083	23.26	2.07	2.477	O	I				1.37
1.167	10.11	2.09	2.577	O	I				1.42
1.250	5.47	2.10	2.617	O	I				1.44
1.333	3.23	2.10	2.632	OI					1.44
1.417	0.82	2.10	2.632	O					1.44
1.500	0.29	2.10	2.621	O					1.44
1.583	0.00	2.10	2.607	O					1.43
1.667	0.00	2.09	2.593	O					1.43
1.750	0.00	2.09	2.579	O					1.42
1.833	0.00	2.09	2.564	O					1.41
1.917	0.00	2.08	2.550	O					1.41
2.000	0.00	2.08	2.536	O					1.40
2.083	0.00	2.08	2.521	O					1.39
2.167	0.00	2.08	2.507	O					1.39
2.250	0.00	2.07	2.493	O					1.38
2.333	0.00	2.07	2.478	O					1.37
2.417	0.00	2.07	2.464	O					1.36
2.500	0.00	2.06	2.450	O					1.36
2.583	0.00	2.06	2.436	O					1.35
2.667	0.00	2.06	2.421	O					1.34
2.750	0.00	2.06	2.407	O					1.34
2.833	0.00	2.05	2.393	O					1.33
2.917	0.00	2.05	2.379	O					1.32
3.000	0.00	2.05	2.365	O					1.32
3.083	0.00	2.04	2.351	O					1.31
3.167	0.00	2.04	2.337	O					1.30
3.250	0.00	2.04	2.323	O					1.30
3.333	0.00	2.04	2.309	O					1.29
3.417	0.00	2.03	2.295	O					1.28
3.500	0.00	2.03	2.281	O					1.28
3.583	0.00	2.03	2.267	O					1.27
3.667	0.00	2.02	2.253	O					1.26
3.750	0.00	2.02	2.239	O					1.26
3.833	0.00	2.02	2.225	O					1.25
3.917	0.00	2.02	2.211	O					1.25
4.000	0.00	2.01	2.197	O					1.24
4.083	0.00	2.01	2.183	O					1.23
4.167	0.00	2.01	2.170	O					1.23
4.250	0.00	2.00	2.156	O					1.22
4.333	0.00	2.00	2.142	O					1.21

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.417	0.00	2.00	2.128	o					1.21
4.500	0.00	2.00	2.114	o					1.20
4.583	0.00	1.99	2.101	o					1.19
4.667	0.00	1.99	2.087	o					1.19
4.750	0.00	1.99	2.073	o					1.18
4.833	0.00	1.98	2.060	o					1.17
4.917	0.00	1.98	2.046	o					1.17
5.000	0.00	1.98	2.032	o					1.16
5.083	0.00	1.98	2.019	o					1.15
5.167	0.00	1.97	2.005	o					1.15
5.250	0.00	1.97	1.991	o					1.14
5.333	0.00	1.97	1.978	o					1.13
5.417	0.00	1.97	1.964	o					1.13
5.500	0.00	1.96	1.951	o					1.12
5.583	0.00	1.96	1.937	o					1.12
5.667	0.00	1.96	1.924	o					1.11
5.750	0.00	1.95	1.910	o					1.10
5.833	0.00	1.95	1.897	o					1.10
5.917	0.00	1.95	1.883	o					1.09
6.000	0.00	1.95	1.870	o					1.08
6.083	0.00	1.94	1.857	o					1.08
6.167	0.00	1.94	1.843	o					1.07
6.250	0.00	1.94	1.830	o					1.06
6.333	0.00	1.94	1.817	o					1.06
6.417	0.00	1.93	1.803	o					1.05
6.500	0.00	1.93	1.790	o					1.05
6.583	0.00	1.93	1.777	o					1.04
6.667	0.00	1.92	1.763	o					1.03
6.750	0.00	1.92	1.750	o					1.03
6.833	0.00	1.92	1.737	o					1.02
6.917	0.00	1.92	1.724	o					1.01
7.000	0.00	1.91	1.711	o					1.01
7.083	0.00	1.91	1.697	o					1.00
7.167	0.00	1.90	1.684	o					0.99
7.250	0.00	1.89	1.671	o					0.99
7.333	0.00	1.87	1.658	o					0.98
7.417	0.00	1.86	1.645	o					0.97
7.500	0.00	1.84	1.633	o					0.96
7.583	0.00	1.83	1.620	o					0.96
7.667	0.00	1.81	1.608	o					0.95
7.750	0.00	1.80	1.595	o					0.94
7.833	0.00	1.79	1.583	o					0.93
7.917	0.00	1.77	1.571	o					0.93
8.000	0.00	1.76	1.558	o					0.92
8.083	0.00	1.74	1.546	o					0.91
8.167	0.00	1.73	1.534	o					0.91
8.250	0.00	1.72	1.522	o					0.90
8.333	0.00	1.70	1.511	o					0.89
8.417	0.00	1.69	1.499	o					0.89
8.500	0.00	1.68	1.487	o					0.88
8.583	0.00	1.67	1.476	o					0.87
8.667	0.00	1.65	1.464	o					0.87
8.750	0.00	1.64	1.453	o					0.86
8.833	0.00	1.63	1.442	o					0.85
8.917	0.00	1.61	1.431	o					0.85
9.000	0.00	1.60	1.420	o					0.84
9.083	0.00	1.59	1.409	o					0.83
9.167	0.00	1.58	1.398	o					0.83
9.250	0.00	1.56	1.387	o					0.82
9.333	0.00	1.55	1.376	o					0.81
9.417	0.00	1.54	1.366	o					0.81
9.500	0.00	1.53	1.355	o					0.80
9.583	0.00	1.52	1.344	o					0.79

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.667	0.00	1.51	1.334	0					0.79
9.750	0.00	1.49	1.324	0					0.78
9.833	0.00	1.48	1.314	0					0.78
9.917	0.00	1.47	1.303	0					0.77
10.000	0.00	1.46	1.293	0					0.76
10.083	0.00	1.45	1.283	0					0.76
10.167	0.00	1.44	1.273	0					0.75
10.250	0.00	1.43	1.263	0					0.75
10.333	0.00	1.41	1.254	0					0.74
10.417	0.00	1.40	1.244	0					0.73
10.500	0.00	1.39	1.234	0					0.73
10.583	0.00	1.38	1.225	0					0.72
10.667	0.00	1.37	1.215	0					0.72
10.750	0.00	1.36	1.206	0					0.71
10.833	0.00	1.35	1.197	0					0.71
10.917	0.00	1.34	1.187	0					0.70
11.000	0.00	1.33	1.178	0					0.70
11.083	0.00	1.32	1.169	0					0.69
11.167	0.00	1.31	1.160	0					0.69
11.250	0.00	1.30	1.151	0					0.68
11.333	0.00	1.29	1.142	0					0.67
11.417	0.00	1.28	1.133	0					0.67
11.500	0.00	1.27	1.124	0					0.66
11.583	0.00	1.26	1.116	0					0.66
11.667	0.00	1.25	1.107	0					0.65
11.750	0.00	1.24	1.099	0					0.65
11.833	0.00	1.23	1.090	0					0.64
11.917	0.00	1.22	1.082	0					0.64
12.000	0.00	1.21	1.073	0					0.63
12.083	0.00	1.20	1.065	0					0.63
12.167	0.00	1.19	1.057	0					0.62
12.250	0.00	1.18	1.049	0					0.62
12.333	0.00	1.17	1.040	0					0.61
12.417	0.00	1.16	1.032	0					0.61
12.500	0.00	1.16	1.024	0					0.61
12.583	0.00	1.15	1.016	0					0.60
12.667	0.00	1.14	1.009	0					0.60
12.750	0.00	1.13	1.001	0					0.59
12.833	0.00	1.12	0.993	0					0.59
12.917	0.00	1.11	0.985	0					0.58
13.000	0.00	1.10	0.978	0					0.58
13.083	0.00	1.09	0.970	0					0.57
13.167	0.00	1.09	0.963	0					0.57
13.250	0.00	1.08	0.955	0					0.56
13.333	0.00	1.07	0.948	0					0.56
13.417	0.00	1.06	0.940	0					0.56
13.500	0.00	1.05	0.933	0					0.55
13.583	0.00	1.04	0.926	0					0.55
13.667	0.00	1.04	0.919	0					0.54
13.750	0.00	1.03	0.912	0					0.54
13.833	0.00	1.02	0.905	0					0.53
13.917	0.00	1.01	0.898	0					0.53
14.000	0.00	1.00	0.891	0					0.53
14.083	0.00	1.00	0.884	0					0.52
14.167	0.00	0.99	0.877	0					0.52
14.250	0.00	0.98	0.870	0					0.51
14.333	0.00	0.97	0.863	0					0.51
14.417	0.00	0.97	0.857	0					0.51
14.500	0.00	0.96	0.850	0					0.50
14.583	0.00	0.95	0.844	0					0.50
14.667	0.00	0.94	0.837	0					0.49
14.750	0.00	0.94	0.831	0					0.49
14.833	0.00	0.93	0.824	0					0.49

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

14.917	0.00	0.92	0.818	o					0.48
15.000	0.00	0.92	0.811	o					0.48
15.083	0.00	0.91	0.805	o					0.48
15.167	0.00	0.90	0.799	o					0.47
15.250	0.00	0.89	0.793	o					0.47
15.333	0.00	0.89	0.787	o					0.46
15.417	0.00	0.88	0.780	o					0.46
15.500	0.00	0.87	0.774	o					0.46
15.583	0.00	0.87	0.768	o					0.45
15.667	0.00	0.86	0.762	o					0.45
15.750	0.00	0.85	0.757	o					0.45
15.833	0.00	0.85	0.751	o					0.44
15.917	0.00	0.84	0.745	o					0.44
16.000	0.00	0.83	0.739	o					0.44
16.083	0.00	0.83	0.733	o					0.43
16.167	0.00	0.82	0.728	o					0.43
16.250	0.00	0.81	0.722	o					0.43
16.333	0.00	0.81	0.717	o					0.42
16.417	0.00	0.80	0.711	o					0.42
16.500	0.00	0.80	0.705	o					0.42
16.583	0.00	0.79	0.700	o					0.41
16.667	0.00	0.78	0.695	o					0.41
16.750	0.00	0.78	0.689	o					0.41
16.833	0.00	0.77	0.684	o					0.40
16.917	0.00	0.77	0.679	o					0.40
17.000	0.00	0.76	0.673	o					0.40
17.083	0.00	0.75	0.668	o					0.39
17.167	0.00	0.75	0.663	o					0.39
17.250	0.00	0.74	0.658	o					0.39
17.333	0.00	0.74	0.653	o					0.39
17.417	0.00	0.73	0.648	o					0.38
17.500	0.00	0.73	0.643	o					0.38
17.583	0.00	0.72	0.638	o					0.38
17.667	0.00	0.71	0.633	o					0.37
17.750	0.00	0.71	0.628	o					0.37
17.833	0.00	0.70	0.623	o					0.37
17.917	0.00	0.70	0.618	o					0.37
18.000	0.00	0.69	0.613	o					0.36
18.083	0.00	0.69	0.609	o					0.36
18.167	0.00	0.68	0.604	o					0.36
18.250	0.00	0.68	0.599	o					0.35
18.333	0.00	0.67	0.595	o					0.35
18.417	0.00	0.67	0.590	o					0.35
18.500	0.00	0.66	0.585	o					0.35
18.583	0.00	0.66	0.581	o					0.34
18.667	0.00	0.65	0.576	o					0.34
18.750	0.00	0.65	0.572	o					0.34
18.833	0.00	0.64	0.568	o					0.34
18.917	0.00	0.64	0.563	o					0.33
19.000	0.00	0.63	0.559	o					0.33
19.083	0.00	0.63	0.554	o					0.33
19.167	0.00	0.62	0.550	o					0.32
19.250	0.00	0.62	0.546	o					0.32
19.333	0.00	0.61	0.542	o					0.32
19.417	0.00	0.61	0.538	o					0.32
19.500	0.00	0.60	0.533	o					0.32
19.583	0.00	0.60	0.529	o					0.31
19.667	0.00	0.59	0.525	o					0.31
19.750	0.00	0.59	0.521	o					0.31
19.833	0.00	0.58	0.517	o					0.31
19.917	0.00	0.58	0.513	o					0.30
20.000	0.00	0.57	0.509	o					0.30
20.083	0.00	0.57	0.505	o					0.30

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

20.167	0.00	0.57	0.501	0					0.30
20.250	0.00	0.56	0.497	0					0.29
20.333	0.00	0.56	0.493	0					0.29
20.417	0.00	0.55	0.490	0					0.29
20.500	0.00	0.55	0.486	0					0.29
20.583	0.00	0.54	0.482	0					0.28
20.667	0.00	0.54	0.478	0					0.28
20.750	0.00	0.54	0.475	0					0.28
20.833	0.00	0.53	0.471	0					0.28
20.917	0.00	0.53	0.467	0					0.28
21.000	0.00	0.52	0.464	0					0.27
21.083	0.00	0.52	0.460	0					0.27
21.167	0.00	0.52	0.457	0					0.27
21.250	0.00	0.51	0.453	0					0.27
21.333	0.00	0.51	0.450	0					0.27
21.417	0.00	0.50	0.446	0					0.26
21.500	0.00	0.50	0.443	0					0.26
21.583	0.00	0.50	0.439	0					0.26
21.667	0.00	0.49	0.436	0					0.26
21.750	0.00	0.49	0.432	0					0.26
21.833	0.00	0.48	0.429	0					0.25
21.917	0.00	0.48	0.426	0					0.25
22.000	0.00	0.48	0.422	0					0.25
22.083	0.00	0.47	0.419	0					0.25
22.167	0.00	0.47	0.416	0					0.25
22.250	0.00	0.47	0.413	0					0.24
22.333	0.00	0.46	0.410	0					0.24
22.417	0.00	0.46	0.406	0					0.24
22.500	0.00	0.45	0.403	0					0.24
22.583	0.00	0.45	0.400	0					0.24
22.667	0.00	0.45	0.397	0					0.23
22.750	0.00	0.44	0.394	0					0.23
22.833	0.00	0.44	0.391	0					0.23
22.917	0.00	0.44	0.388	0					0.23
23.000	0.00	0.43	0.385	0					0.23
23.083	0.00	0.43	0.382	0					0.23
23.167	0.00	0.43	0.379	0					0.22
23.250	0.00	0.42	0.376	0					0.22
23.333	0.00	0.42	0.373	0					0.22
23.417	0.00	0.42	0.370	0					0.22
23.500	0.00	0.41	0.367	0					0.22
23.583	0.00	0.41	0.364	0					0.22
23.667	0.00	0.41	0.362	0					0.21
23.750	0.00	0.40	0.359	0					0.21
23.833	0.00	0.40	0.356	0					0.21
23.917	0.00	0.40	0.353	0					0.21
24.000	0.00	0.40	0.351	0					0.21
24.083	0.00	0.39	0.348	0					0.21
24.167	0.00	0.39	0.345	0					0.20
24.250	0.00	0.39	0.343	0					0.20
24.333	0.00	0.38	0.340	0					0.20
24.417	0.00	0.38	0.337	0					0.20
24.500	0.00	0.38	0.335	0					0.20
24.583	0.00	0.37	0.332	0					0.20
24.667	0.00	0.37	0.329	0					0.19
24.750	0.00	0.37	0.327	0					0.19
24.833	0.00	0.37	0.324	0					0.19
24.917	0.00	0.36	0.322	0					0.19
25.000	0.00	0.36	0.319	0					0.19
25.083	0.00	0.36	0.317	0					0.19
25.167	0.00	0.35	0.314	0					0.19
25.250	0.00	0.35	0.312	0					0.18
25.333	0.00	0.35	0.310	0					0.18

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.417	0.00	0.35	0.307	0					0.18
25.500	0.00	0.34	0.305	0					0.18
25.583	0.00	0.34	0.302	0					0.18
25.667	0.00	0.34	0.300	0					0.18
25.750	0.00	0.34	0.298	0					0.18
25.833	0.00	0.33	0.295	0					0.17
25.917	0.00	0.33	0.293	0					0.17
26.000	0.00	0.33	0.291	0					0.17
26.083	0.00	0.33	0.289	0					0.17
26.167	0.00	0.32	0.286	0					0.17
26.250	0.00	0.32	0.284	0					0.17
26.333	0.00	0.32	0.282	0					0.17
26.417	0.00	0.32	0.280	0					0.17
26.500	0.00	0.31	0.278	0					0.16
26.583	0.00	0.31	0.276	0					0.16
26.667	0.00	0.31	0.273	0					0.16
26.750	0.00	0.31	0.271	0					0.16
26.833	0.00	0.30	0.269	0					0.16
26.917	0.00	0.30	0.267	0					0.16
27.000	0.00	0.30	0.265	0					0.16
27.083	0.00	0.30	0.263	0					0.16
27.167	0.00	0.29	0.261	0					0.15
27.250	0.00	0.29	0.259	0					0.15
27.333	0.00	0.29	0.257	0					0.15
27.417	0.00	0.29	0.255	0					0.15
27.500	0.00	0.29	0.253	0					0.15
27.583	0.00	0.28	0.251	0					0.15
27.667	0.00	0.28	0.249	0					0.15
27.750	0.00	0.28	0.247	0					0.15
27.833	0.00	0.28	0.245	0					0.14
27.917	0.00	0.27	0.243	0					0.14
28.000	0.00	0.27	0.241	0					0.14
28.083	0.00	0.27	0.240	0					0.14
28.167	0.00	0.27	0.238	0					0.14
28.250	0.00	0.27	0.236	0					0.14
28.333	0.00	0.26	0.234	0					0.14
28.417	0.00	0.26	0.232	0					0.14
28.500	0.00	0.26	0.230	0					0.14
28.583	0.00	0.26	0.229	0					0.14
28.667	0.00	0.26	0.227	0					0.13
28.750	0.00	0.25	0.225	0					0.13
28.833	0.00	0.25	0.223	0					0.13
28.917	0.00	0.25	0.222	0					0.13
29.000	0.00	0.25	0.220	0					0.13
29.083	0.00	0.25	0.218	0					0.13
29.167	0.00	0.24	0.217	0					0.13
29.250	0.00	0.24	0.215	0					0.13
29.333	0.00	0.24	0.213	0					0.13
29.417	0.00	0.24	0.212	0					0.12
29.500	0.00	0.24	0.210	0					0.12
29.583	0.00	0.24	0.208	0					0.12
29.667	0.00	0.23	0.207	0					0.12
29.750	0.00	0.23	0.205	0					0.12
29.833	0.00	0.23	0.204	0					0.12
29.917	0.00	0.23	0.202	0					0.12
30.000	0.00	0.23	0.200	0					0.12
30.083	0.00	0.22	0.199	0					0.12
30.167	0.00	0.22	0.197	0					0.12
30.250	0.00	0.22	0.196	0					0.12
30.333	0.00	0.22	0.194	0					0.11
30.417	0.00	0.22	0.193	0					0.11
30.500	0.00	0.22	0.191	0					0.11
30.583	0.00	0.21	0.190	0					0.11

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.667	0.00	0.21	0.188	o					0.11
30.750	0.00	0.21	0.187	o					0.11
30.833	0.00	0.21	0.185	o					0.11
30.917	0.00	0.21	0.184	o					0.11
31.000	0.00	0.21	0.183	o					0.11
31.083	0.00	0.20	0.181	o					0.11
31.167	0.00	0.20	0.180	o					0.11
31.250	0.00	0.20	0.178	o					0.11
31.333	0.00	0.20	0.177	o					0.10
31.417	0.00	0.20	0.176	o					0.10
31.500	0.00	0.20	0.174	o					0.10
31.583	0.00	0.20	0.173	o					0.10
31.667	0.00	0.19	0.172	o					0.10
31.750	0.00	0.19	0.170	o					0.10
31.833	0.00	0.19	0.169	o					0.10
31.917	0.00	0.19	0.168	o					0.10
32.000	0.00	0.19	0.166	o					0.10
32.083	0.00	0.19	0.165	o					0.10
32.167	0.00	0.18	0.164	o					0.10
32.250	0.00	0.18	0.162	o					0.10
32.333	0.00	0.18	0.161	o					0.10
32.417	0.00	0.18	0.160	o					0.09
32.500	0.00	0.18	0.159	o					0.09
32.583	0.00	0.18	0.157	o					0.09
32.667	0.00	0.18	0.156	o					0.09
32.750	0.00	0.17	0.155	o					0.09
32.833	0.00	0.17	0.154	o					0.09
32.917	0.00	0.17	0.153	o					0.09
33.000	0.00	0.17	0.151	o					0.09
33.083	0.00	0.17	0.150	o					0.09
33.167	0.00	0.17	0.149	o					0.09
33.250	0.00	0.17	0.148	o					0.09
33.333	0.00	0.17	0.147	o					0.09
33.417	0.00	0.16	0.146	o					0.09
33.500	0.00	0.16	0.145	o					0.09
33.583	0.00	0.16	0.143	o					0.08
33.667	0.00	0.16	0.142	o					0.08
33.750	0.00	0.16	0.141	o					0.08
33.833	0.00	0.16	0.140	o					0.08
33.917	0.00	0.16	0.139	o					0.08
34.000	0.00	0.16	0.138	o					0.08
34.083	0.00	0.15	0.137	o					0.08
34.167	0.00	0.15	0.136	o					0.08
34.250	0.00	0.15	0.135	o					0.08
34.333	0.00	0.15	0.134	o					0.08
34.417	0.00	0.15	0.133	o					0.08
34.500	0.00	0.15	0.132	o					0.08
34.583	0.00	0.15	0.131	o					0.08
34.667	0.00	0.15	0.130	o					0.08
34.750	0.00	0.15	0.129	o					0.08
34.833	0.00	0.14	0.128	o					0.08
34.917	0.00	0.14	0.127	o					0.07
35.000	0.00	0.14	0.126	o					0.07
35.083	0.00	0.14	0.125	o					0.07
35.167	0.00	0.14	0.124	o					0.07
35.250	0.00	0.14	0.123	o					0.07
35.333	0.00	0.14	0.122	o					0.07
35.417	0.00	0.14	0.121	o					0.07
35.500	0.00	0.14	0.120	o					0.07
35.583	0.00	0.13	0.119	o					0.07
35.667	0.00	0.13	0.118	o					0.07
35.750	0.00	0.13	0.117	o					0.07
35.833	0.00	0.13	0.116	o					0.07

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

35.917	0.00	0.13	0.115	0					0.07
36.000	0.00	0.13	0.115	0					0.07
36.083	0.00	0.13	0.114	0					0.07
36.167	0.00	0.13	0.113	0					0.07
36.250	0.00	0.13	0.112	0					0.07
36.333	0.00	0.13	0.111	0					0.07
36.417	0.00	0.12	0.110	0					0.07
36.500	0.00	0.12	0.109	0					0.06
36.583	0.00	0.12	0.108	0					0.06
36.667	0.00	0.12	0.108	0					0.06
36.750	0.00	0.12	0.107	0					0.06
36.833	0.00	0.12	0.106	0					0.06
36.917	0.00	0.12	0.105	0					0.06
37.000	0.00	0.12	0.104	0					0.06
37.083	0.00	0.12	0.104	0					0.06
37.167	0.00	0.12	0.103	0					0.06
37.250	0.00	0.11	0.102	0					0.06
37.333	0.00	0.11	0.101	0					0.06
37.417	0.00	0.11	0.100	0					0.06
37.500	0.00	0.11	0.100	0					0.06
37.583	0.00	0.11	0.099	0					0.06
37.667	0.00	0.11	0.098	0					0.06
37.750	0.00	0.11	0.097	0					0.06
37.833	0.00	0.11	0.097	0					0.06
37.917	0.00	0.11	0.096	0					0.06
38.000	0.00	0.11	0.095	0					0.06
38.083	0.00	0.11	0.094	0					0.06
38.167	0.00	0.11	0.094	0					0.06
38.250	0.00	0.10	0.093	0					0.05
38.333	0.00	0.10	0.092	0					0.05
38.417	0.00	0.10	0.091	0					0.05
38.500	0.00	0.10	0.091	0					0.05
38.583	0.00	0.10	0.090	0					0.05
38.667	0.00	0.10	0.089	0					0.05
38.750	0.00	0.10	0.089	0					0.05
38.833	0.00	0.10	0.088	0					0.05
38.917	0.00	0.10	0.087	0					0.05
39.000	0.00	0.10	0.087	0					0.05
39.083	0.00	0.10	0.086	0					0.05
39.167	0.00	0.10	0.085	0					0.05
39.250	0.00	0.10	0.085	0					0.05
39.333	0.00	0.09	0.084	0					0.05
39.417	0.00	0.09	0.083	0					0.05
39.500	0.00	0.09	0.083	0					0.05
39.583	0.00	0.09	0.082	0					0.05
39.667	0.00	0.09	0.081	0					0.05
39.750	0.00	0.09	0.081	0					0.05
39.833	0.00	0.09	0.080	0					0.05
39.917	0.00	0.09	0.079	0					0.05
40.000	0.00	0.09	0.079	0					0.05
40.083	0.00	0.09	0.078	0					0.05
40.167	0.00	0.09	0.078	0					0.05
40.250	0.00	0.09	0.077	0					0.05
40.333	0.00	0.09	0.076	0					0.05
40.417	0.00	0.09	0.076	0					0.04
40.500	0.00	0.08	0.075	0					0.04
40.583	0.00	0.08	0.075	0					0.04
40.667	0.00	0.08	0.074	0					0.04
40.750	0.00	0.08	0.074	0					0.04
40.833	0.00	0.08	0.073	0					0.04
40.917	0.00	0.08	0.072	0					0.04
41.000	0.00	0.08	0.072	0					0.04
41.083	0.00	0.08	0.071	0					0.04



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## ATTACHMENT E – Detention Basin Routing

41.167	0.00	0.08	0.071	o					0.04
41.250	0.00	0.08	0.070	o					0.04
41.333	0.00	0.08	0.070	o					0.04
41.417	0.00	0.08	0.069	o					0.04
41.500	0.00	0.08	0.069	o					0.04
41.583	0.00	0.08	0.068	o					0.04
41.667	0.00	0.08	0.068	o					0.04
41.750	0.00	0.08	0.067	o					0.04
41.833	0.00	0.07	0.066	o					0.04
41.917	0.00	0.07	0.066	o					0.04
42.000	0.00	0.07	0.065	o					0.04
42.083	0.00	0.07	0.065	o					0.04
42.167	0.00	0.07	0.064	o					0.04
42.250	0.00	0.07	0.064	o					0.04
42.333	0.00	0.07	0.063	o					0.04
42.417	0.00	0.07	0.063	o					0.04
42.500	0.00	0.07	0.062	o					0.04
42.583	0.00	0.07	0.062	o					0.04
42.667	0.00	0.07	0.062	o					0.04
42.750	0.00	0.07	0.061	o					0.04
42.833	0.00	0.07	0.061	o					0.04
42.917	0.00	0.07	0.060	o					0.04
43.000	0.00	0.07	0.060	o					0.04
43.083	0.00	0.07	0.059	o					0.03
43.167	0.00	0.07	0.059	o					0.03
43.250	0.00	0.07	0.058	o					0.03
43.333	0.00	0.07	0.058	o					0.03
43.417	0.00	0.06	0.057	o					0.03
43.500	0.00	0.06	0.057	o					0.03
43.583	0.00	0.06	0.056	o					0.03
43.667	0.00	0.06	0.056	o					0.03
43.750	0.00	0.06	0.056	o					0.03
43.833	0.00	0.06	0.055	o					0.03
43.917	0.00	0.06	0.055	o					0.03
44.000	0.00	0.06	0.054	o					0.03
44.083	0.00	0.06	0.054	o					0.03
44.167	0.00	0.06	0.053	o					0.03
44.250	0.00	0.06	0.053	o					0.03
44.333	0.00	0.06	0.053	o					0.03
44.417	0.00	0.06	0.052	o					0.03
44.500	0.00	0.06	0.052	o					0.03
44.583	0.00	0.06	0.051	o					0.03
44.667	0.00	0.06	0.051	o					0.03
44.750	0.00	0.06	0.051	o					0.03
44.833	0.00	0.06	0.050	o					0.03
44.917	0.00	0.06	0.050	o					0.03
45.000	0.00	0.06	0.049	o					0.03
45.083	0.00	0.06	0.049	o					0.03
45.167	0.00	0.05	0.049	o					0.03
45.250	0.00	0.05	0.048	o					0.03
45.333	0.00	0.05	0.048	o					0.03
45.417	0.00	0.05	0.048	o					0.03
45.500	0.00	0.05	0.047	o					0.03
45.583	0.00	0.05	0.047	o					0.03
45.667	0.00	0.05	0.046	o					0.03
45.750	0.00	0.05	0.046	o					0.03
45.833	0.00	0.05	0.046	o					0.03
45.917	0.00	0.05	0.045	o					0.03
46.000	0.00	0.05	0.045	o					0.03
46.083	0.00	0.05	0.045	o					0.03
46.167	0.00	0.05	0.044	o					0.03
46.250	0.00	0.05	0.044	o					0.03
46.333	0.00	0.05	0.044	o					0.03

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

46.417	0.00	0.05	0.043	0					0.03
46.500	0.00	0.05	0.043	0					0.03
46.583	0.00	0.05	0.043	0					0.03
46.667	0.00	0.05	0.042	0					0.03
46.750	0.00	0.05	0.042	0					0.02
46.833	0.00	0.05	0.042	0					0.02
46.917	0.00	0.05	0.041	0					0.02
47.000	0.00	0.05	0.041	0					0.02
47.083	0.00	0.05	0.041	0					0.02
47.167	0.00	0.05	0.040	0					0.02
47.250	0.00	0.05	0.040	0					0.02
47.333	0.00	0.04	0.040	0					0.02
47.417	0.00	0.04	0.039	0					0.02
47.500	0.00	0.04	0.039	0					0.02
47.583	0.00	0.04	0.039	0					0.02
47.667	0.00	0.04	0.039	0					0.02
47.750	0.00	0.04	0.038	0					0.02
47.833	0.00	0.04	0.038	0					0.02
47.917	0.00	0.04	0.038	0					0.02
48.000	0.00	0.04	0.037	0					0.02
48.083	0.00	0.04	0.037	0					0.02
48.167	0.00	0.04	0.037	0					0.02
48.250	0.00	0.04	0.037	0					0.02
48.333	0.00	0.04	0.036	0					0.02
48.417	0.00	0.04	0.036	0					0.02
48.500	0.00	0.04	0.036	0					0.02
48.583	0.00	0.04	0.035	0					0.02
48.667	0.00	0.04	0.035	0					0.02
48.750	0.00	0.04	0.035	0					0.02
48.833	0.00	0.04	0.035	0					0.02
48.917	0.00	0.04	0.034	0					0.02
49.000	0.00	0.04	0.034	0					0.02
49.083	0.00	0.04	0.034	0					0.02
49.167	0.00	0.04	0.034	0					0.02
49.250	0.00	0.04	0.033	0					0.02
49.333	0.00	0.04	0.033	0					0.02
49.417	0.00	0.04	0.033	0					0.02
49.500	0.00	0.04	0.033	0					0.02
49.583	0.00	0.04	0.032	0					0.02
49.667	0.00	0.04	0.032	0					0.02
49.750	0.00	0.04	0.032	0					0.02
49.833	0.00	0.04	0.032	0					0.02
49.917	0.00	0.04	0.031	0					0.02
50.000	0.00	0.04	0.031	0					0.02
50.083	0.00	0.03	0.031	0					0.02
50.167	0.00	0.03	0.031	0					0.02
50.250	0.00	0.03	0.030	0					0.02
50.333	0.00	0.03	0.030	0					0.02
50.417	0.00	0.03	0.030	0					0.02
50.500	0.00	0.03	0.030	0					0.02
50.583	0.00	0.03	0.029	0					0.02
50.667	0.00	0.03	0.029	0					0.02
50.750	0.00	0.03	0.029	0					0.02
50.833	0.00	0.03	0.029	0					0.02
50.917	0.00	0.03	0.029	0					0.02
51.000	0.00	0.03	0.028	0					0.02
51.083	0.00	0.03	0.028	0					0.02
51.167	0.00	0.03	0.028	0					0.02
51.250	0.00	0.03	0.028	0					0.02
51.333	0.00	0.03	0.027	0					0.02
51.417	0.00	0.03	0.027	0					0.02
51.500	0.00	0.03	0.027	0					0.02
51.583	0.00	0.03	0.027	0					0.02

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

51.667	0.00	0.03	0.027	o					0.02
51.750	0.00	0.03	0.026	o					0.02
51.833	0.00	0.03	0.026	o					0.02
51.917	0.00	0.03	0.026	o					0.02
52.000	0.00	0.03	0.026	o					0.02
52.083	0.00	0.03	0.026	o					0.02
52.167	0.00	0.03	0.025	o					0.01
52.250	0.00	0.03	0.025	o					0.01
52.333	0.00	0.03	0.025	o					0.01
52.417	0.00	0.03	0.025	o					0.01
52.500	0.00	0.03	0.025	o					0.01
52.583	0.00	0.03	0.024	o					0.01
52.667	0.00	0.03	0.024	o					0.01
52.750	0.00	0.03	0.024	o					0.01
52.833	0.00	0.03	0.024	o					0.01
52.917	0.00	0.03	0.024	o					0.01
53.000	0.00	0.03	0.023	o					0.01
53.083	0.00	0.03	0.023	o					0.01
53.167	0.00	0.03	0.023	o					0.01
53.250	0.00	0.03	0.023	o					0.01
53.333	0.00	0.03	0.023	o					0.01
53.417	0.00	0.03	0.023	o					0.01
53.500	0.00	0.03	0.022	o					0.01
53.583	0.00	0.03	0.022	o					0.01
53.667	0.00	0.02	0.022	o					0.01
53.750	0.00	0.02	0.022	o					0.01
53.833	0.00	0.02	0.022	o					0.01
53.917	0.00	0.02	0.022	o					0.01
54.000	0.00	0.02	0.021	o					0.01
54.083	0.00	0.02	0.021	o					0.01
54.167	0.00	0.02	0.021	o					0.01
54.250	0.00	0.02	0.021	o					0.01
54.333	0.00	0.02	0.021	o					0.01
54.417	0.00	0.02	0.021	o					0.01
54.500	0.00	0.02	0.020	o					0.01
54.583	0.00	0.02	0.020	o					0.01
54.667	0.00	0.02	0.020	o					0.01
54.750	0.00	0.02	0.020	o					0.01
54.833	0.00	0.02	0.020	o					0.01
54.917	0.00	0.02	0.020	o					0.01
55.000	0.00	0.02	0.019	o					0.01
55.083	0.00	0.02	0.019	o					0.01
55.167	0.00	0.02	0.019	o					0.01
55.250	0.00	0.02	0.019	o					0.01
55.333	0.00	0.02	0.019	o					0.01
55.417	0.00	0.02	0.019	o					0.01
55.500	0.00	0.02	0.019	o					0.01
55.583	0.00	0.02	0.018	o					0.01
55.667	0.00	0.02	0.018	o					0.01
55.750	0.00	0.02	0.018	o					0.01
55.833	0.00	0.02	0.018	o					0.01
55.917	0.00	0.02	0.018	o					0.01
56.000	0.00	0.02	0.018	o					0.01
56.083	0.00	0.02	0.018	o					0.01
56.167	0.00	0.02	0.017	o					0.01
56.250	0.00	0.02	0.017	o					0.01
56.333	0.00	0.02	0.017	o					0.01
56.417	0.00	0.02	0.017	o					0.01
56.500	0.00	0.02	0.017	o					0.01
56.583	0.00	0.02	0.017	o					0.01
56.667	0.00	0.02	0.017	o					0.01
56.750	0.00	0.02	0.017	o					0.01
56.833	0.00	0.02	0.016	o					0.01

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## ATTACHMENT E – Detention Basin Routing

56.917	0.00	0.02	0.016	o					0.01
57.000	0.00	0.02	0.016	o					0.01
57.083	0.00	0.02	0.016	o					0.01
57.167	0.00	0.02	0.016	o					0.01
57.250	0.00	0.02	0.016	o					0.01
57.333	0.00	0.02	0.016	o					0.01
57.417	0.00	0.02	0.016	o					0.01
57.500	0.00	0.02	0.015	o					0.01
57.583	0.00	0.02	0.015	o					0.01
57.667	0.00	0.02	0.015	o					0.01
57.750	0.00	0.02	0.015	o					0.01
57.833	0.00	0.02	0.015	o					0.01
57.917	0.00	0.02	0.015	o					0.01
58.000	0.00	0.02	0.015	o					0.01
58.083	0.00	0.02	0.015	o					0.01
58.167	0.00	0.02	0.014	o					0.01
58.250	0.00	0.02	0.014	o					0.01
58.333	0.00	0.02	0.014	o					0.01
58.417	0.00	0.02	0.014	o					0.01
58.500	0.00	0.02	0.014	o					0.01
58.583	0.00	0.02	0.014	o					0.01
58.667	0.00	0.02	0.014	o					0.01
58.750	0.00	0.02	0.014	o					0.01
58.833	0.00	0.02	0.014	o					0.01
58.917	0.00	0.02	0.014	o					0.01
59.000	0.00	0.02	0.013	o					0.01
59.083	0.00	0.02	0.013	o					0.01
59.167	0.00	0.01	0.013	o					0.01
59.250	0.00	0.01	0.013	o					0.01
59.333	0.00	0.01	0.013	o					0.01
59.417	0.00	0.01	0.013	o					0.01
59.500	0.00	0.01	0.013	o					0.01
59.583	0.00	0.01	0.013	o					0.01
59.667	0.00	0.01	0.013	o					0.01
59.750	0.00	0.01	0.013	o					0.01
59.833	0.00	0.01	0.012	o					0.01
59.917	0.00	0.01	0.012	o					0.01
60.000	0.00	0.01	0.012	o					0.01
60.083	0.00	0.01	0.012	o					0.01
60.167	0.00	0.01	0.012	o					0.01
60.250	0.00	0.01	0.012	o					0.01
60.333	0.00	0.01	0.012	o					0.01
60.417	0.00	0.01	0.012	o					0.01
60.500	0.00	0.01	0.012	o					0.01
60.583	0.00	0.01	0.012	o					0.01
60.667	0.00	0.01	0.011	o					0.01
60.750	0.00	0.01	0.011	o					0.01
60.833	0.00	0.01	0.011	o					0.01
60.917	0.00	0.01	0.011	o					0.01
61.000	0.00	0.01	0.011	o					0.01
61.083	0.00	0.01	0.011	o					0.01
61.167	0.00	0.01	0.011	o					0.01
61.250	0.00	0.01	0.011	o					0.01
61.333	0.00	0.01	0.011	o					0.01
61.417	0.00	0.01	0.011	o					0.01
61.500	0.00	0.01	0.011	o					0.01
61.583	0.00	0.01	0.011	o					0.01
61.667	0.00	0.01	0.010	o					0.01
61.750	0.00	0.01	0.010	o					0.01
61.833	0.00	0.01	0.010	o					0.01
61.917	0.00	0.01	0.010	o					0.01
62.000	0.00	0.01	0.010	o					0.01
62.083	0.00	0.01	0.010	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.167	0.00	0.01	0.010	o					0.01
62.250	0.00	0.01	0.010	o					0.01
62.333	0.00	0.01	0.010	o					0.01
62.417	0.00	0.01	0.010	o					0.01
62.500	0.00	0.01	0.010	o					0.01
62.583	0.00	0.01	0.010	o					0.01
62.667	0.00	0.01	0.010	o					0.01
62.750	0.00	0.01	0.009	o					0.01
62.833	0.00	0.01	0.009	o					0.01
62.917	0.00	0.01	0.009	o					0.01
63.000	0.00	0.01	0.009	o					0.01
63.083	0.00	0.01	0.009	o					0.01
63.167	0.00	0.01	0.009	o					0.01
63.250	0.00	0.01	0.009	o					0.01
63.333	0.00	0.01	0.009	o					0.01
63.417	0.00	0.01	0.009	o					0.01
63.500	0.00	0.01	0.009	o					0.01
63.583	0.00	0.01	0.009	o					0.01
63.667	0.00	0.01	0.009	o					0.01
63.750	0.00	0.01	0.009	o					0.01
63.833	0.00	0.01	0.009	o					0.01
63.917	0.00	0.01	0.008	o					0.01
64.000	0.00	0.01	0.008	o					0.00
64.083	0.00	0.01	0.008	o					0.00
64.167	0.00	0.01	0.008	o					0.00
64.250	0.00	0.01	0.008	o					0.00
64.333	0.00	0.01	0.008	o					0.00
64.417	0.00	0.01	0.008	o					0.00
64.500	0.00	0.01	0.008	o					0.00
64.583	0.00	0.01	0.008	o					0.00
64.667	0.00	0.01	0.008	o					0.00
64.750	0.00	0.01	0.008	o					0.00
64.833	0.00	0.01	0.008	o					0.00
64.917	0.00	0.01	0.008	o					0.00
65.000	0.00	0.01	0.008	o					0.00
65.083	0.00	0.01	0.008	o					0.00
65.167	0.00	0.01	0.008	o					0.00
65.250	0.00	0.01	0.007	o					0.00
65.333	0.00	0.01	0.007	o					0.00
65.417	0.00	0.01	0.007	o					0.00
65.500	0.00	0.01	0.007	o					0.00
65.583	0.00	0.01	0.007	o					0.00
65.667	0.00	0.01	0.007	o					0.00
65.750	0.00	0.01	0.007	o					0.00
65.833	0.00	0.01	0.007	o					0.00
65.917	0.00	0.01	0.007	o					0.00
66.000	0.00	0.01	0.007	o					0.00
66.083	0.00	0.01	0.007	o					0.00
66.167	0.00	0.01	0.007	o					0.00
66.250	0.00	0.01	0.007	o					0.00
66.333	0.00	0.01	0.007	o					0.00
66.417	0.00	0.01	0.007	o					0.00
66.500	0.00	0.01	0.007	o					0.00
66.583	0.00	0.01	0.007	o					0.00
66.667	0.00	0.01	0.007	o					0.00
66.750	0.00	0.01	0.007	o					0.00
66.833	0.00	0.01	0.006	o					0.00
66.917	0.00	0.01	0.006	o					0.00
67.000	0.00	0.01	0.006	o					0.00
67.083	0.00	0.01	0.006	o					0.00
67.167	0.00	0.01	0.006	o					0.00
67.250	0.00	0.01	0.006	o					0.00
67.333	0.00	0.01	0.006	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

67.417	0.00	0.01	0.006	o					0.00
67.500	0.00	0.01	0.006	o					0.00
67.583	0.00	0.01	0.006	o					0.00
67.667	0.00	0.01	0.006	o					0.00
67.750	0.00	0.01	0.006	o					0.00
67.833	0.00	0.01	0.006	o					0.00
67.917	0.00	0.01	0.006	o					0.00
68.000	0.00	0.01	0.006	o					0.00
68.083	0.00	0.01	0.006	o					0.00
68.167	0.00	0.01	0.006	o					0.00
68.250	0.00	0.01	0.006	o					0.00
68.333	0.00	0.01	0.006	o					0.00
68.417	0.00	0.01	0.006	o					0.00
68.500	0.00	0.01	0.006	o					0.00
68.583	0.00	0.01	0.005	o					0.00
68.667	0.00	0.01	0.005	o					0.00
68.750	0.00	0.01	0.005	o					0.00
68.833	0.00	0.01	0.005	o					0.00
68.917	0.00	0.01	0.005	o					0.00
69.000	0.00	0.01	0.005	o					0.00
69.083	0.00	0.01	0.005	o					0.00
69.167	0.00	0.01	0.005	o					0.00
69.250	0.00	0.01	0.005	o					0.00
69.333	0.00	0.01	0.005	o					0.00
69.417	0.00	0.01	0.005	o					0.00
69.500	0.00	0.01	0.005	o					0.00
69.583	0.00	0.01	0.005	o					0.00
69.667	0.00	0.01	0.005	o					0.00
69.750	0.00	0.01	0.005	o					0.00
69.833	0.00	0.01	0.005	o					0.00
69.917	0.00	0.01	0.005	o					0.00
70.000	0.00	0.01	0.005	o					0.00
70.083	0.00	0.01	0.005	o					0.00
70.167	0.00	0.01	0.005	o					0.00
70.250	0.00	0.01	0.005	o					0.00
70.333	0.00	0.01	0.005	o					0.00
70.417	0.00	0.01	0.005	o					0.00
70.500	0.00	0.01	0.005	o					0.00
70.583	0.00	0.01	0.005	o					0.00
70.667	0.00	0.01	0.005	o					0.00
70.750	0.00	0.01	0.004	o					0.00
70.833	0.00	0.01	0.004	o					0.00
70.917	0.00	0.00	0.004	o					0.00
71.000	0.00	0.00	0.004	o					0.00
71.083	0.00	0.00	0.004	o					0.00
71.167	0.00	0.00	0.004	o					0.00
71.250	0.00	0.00	0.004	o					0.00
71.333	0.00	0.00	0.004	o					0.00
71.417	0.00	0.00	0.004	o					0.00
71.500	0.00	0.00	0.004	o					0.00
71.583	0.00	0.00	0.004	o					0.00
71.667	0.00	0.00	0.004	o					0.00
71.750	0.00	0.00	0.004	o					0.00
71.833	0.00	0.00	0.004	o					0.00
71.917	0.00	0.00	0.004	o					0.00
72.000	0.00	0.00	0.004	o					0.00
72.083	0.00	0.00	0.004	o					0.00
72.167	0.00	0.00	0.004	o					0.00
72.250	0.00	0.00	0.004	o					0.00
72.333	0.00	0.00	0.004	o					0.00
72.417	0.00	0.00	0.004	o					0.00
72.500	0.00	0.00	0.004	o					0.00
72.583	0.00	0.00	0.004	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

72.667	0.00	0.00	0.004	o					0.00
72.750	0.00	0.00	0.004	o					0.00
72.833	0.00	0.00	0.004	o					0.00
72.917	0.00	0.00	0.004	o					0.00
73.000	0.00	0.00	0.004	o					0.00
73.083	0.00	0.00	0.004	o					0.00
73.167	0.00	0.00	0.004	o					0.00
73.250	0.00	0.00	0.004	o					0.00
73.333	0.00	0.00	0.004	o					0.00
73.417	0.00	0.00	0.003	o					0.00
73.500	0.00	0.00	0.003	o					0.00
73.583	0.00	0.00	0.003	o					0.00
73.667	0.00	0.00	0.003	o					0.00
73.750	0.00	0.00	0.003	o					0.00
73.833	0.00	0.00	0.003	o					0.00
73.917	0.00	0.00	0.003	o					0.00
74.000	0.00	0.00	0.003	o					0.00
74.083	0.00	0.00	0.003	o					0.00
74.167	0.00	0.00	0.003	o					0.00
74.250	0.00	0.00	0.003	o					0.00
74.333	0.00	0.00	0.003	o					0.00
74.417	0.00	0.00	0.003	o					0.00
74.500	0.00	0.00	0.003	o					0.00
74.583	0.00	0.00	0.003	o					0.00
74.667	0.00	0.00	0.003	o					0.00
74.750	0.00	0.00	0.003	o					0.00
74.833	0.00	0.00	0.003	o					0.00
74.917	0.00	0.00	0.003	o					0.00
75.000	0.00	0.00	0.003	o					0.00
75.083	0.00	0.00	0.003	o					0.00
75.167	0.00	0.00	0.003	o					0.00
75.250	0.00	0.00	0.003	o					0.00
75.333	0.00	0.00	0.003	o					0.00
75.417	0.00	0.00	0.003	o					0.00
75.500	0.00	0.00	0.003	o					0.00
75.583	0.00	0.00	0.003	o					0.00
75.667	0.00	0.00	0.003	o					0.00
75.750	0.00	0.00	0.003	o					0.00
75.833	0.00	0.00	0.003	o					0.00
75.917	0.00	0.00	0.003	o					0.00
76.000	0.00	0.00	0.003	o					0.00
76.083	0.00	0.00	0.003	o					0.00
76.167	0.00	0.00	0.003	o					0.00
76.250	0.00	0.00	0.003	o					0.00
76.333	0.00	0.00	0.003	o					0.00
76.417	0.00	0.00	0.003	o					0.00
76.500	0.00	0.00	0.003	o					0.00
76.583	0.00	0.00	0.003	o					0.00
76.667	0.00	0.00	0.003	o					0.00
76.750	0.00	0.00	0.003	o					0.00
76.833	0.00	0.00	0.003	o					0.00
76.917	0.00	0.00	0.003	o					0.00
77.000	0.00	0.00	0.003	o					0.00
77.083	0.00	0.00	0.002	o					0.00
77.167	0.00	0.00	0.002	o					0.00
77.250	0.00	0.00	0.002	o					0.00
77.333	0.00	0.00	0.002	o					0.00
77.417	0.00	0.00	0.002	o					0.00
77.500	0.00	0.00	0.002	o					0.00
77.583	0.00	0.00	0.002	o					0.00
77.667	0.00	0.00	0.002	o					0.00
77.750	0.00	0.00	0.002	o					0.00
77.833	0.00	0.00	0.002	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

77.917	0.00	0.00	0.002	o					0.00
78.000	0.00	0.00	0.002	o					0.00
78.083	0.00	0.00	0.002	o					0.00
78.167	0.00	0.00	0.002	o					0.00
78.250	0.00	0.00	0.002	o					0.00
78.333	0.00	0.00	0.002	o					0.00
78.417	0.00	0.00	0.002	o					0.00
78.500	0.00	0.00	0.002	o					0.00
78.583	0.00	0.00	0.002	o					0.00
78.667	0.00	0.00	0.002	o					0.00
78.750	0.00	0.00	0.002	o					0.00
78.833	0.00	0.00	0.002	o					0.00
78.917	0.00	0.00	0.002	o					0.00
79.000	0.00	0.00	0.002	o					0.00
79.083	0.00	0.00	0.002	o					0.00
79.167	0.00	0.00	0.002	o					0.00
79.250	0.00	0.00	0.002	o					0.00
79.333	0.00	0.00	0.002	o					0.00
79.417	0.00	0.00	0.002	o					0.00
79.500	0.00	0.00	0.002	o					0.00
79.583	0.00	0.00	0.002	o					0.00
79.667	0.00	0.00	0.002	o					0.00
79.750	0.00	0.00	0.002	o					0.00
79.833	0.00	0.00	0.002	o					0.00
79.917	0.00	0.00	0.002	o					0.00
80.000	0.00	0.00	0.002	o					0.00
80.083	0.00	0.00	0.002	o					0.00
80.167	0.00	0.00	0.002	o					0.00
80.250	0.00	0.00	0.002	o					0.00
80.333	0.00	0.00	0.002	o					0.00
80.417	0.00	0.00	0.002	o					0.00
80.500	0.00	0.00	0.002	o					0.00
80.583	0.00	0.00	0.002	o					0.00
80.667	0.00	0.00	0.002	o					0.00
80.750	0.00	0.00	0.002	o					0.00
80.833	0.00	0.00	0.002	o					0.00
80.917	0.00	0.00	0.002	o					0.00
81.000	0.00	0.00	0.002	o					0.00
81.083	0.00	0.00	0.002	o					0.00
81.167	0.00	0.00	0.002	o					0.00
81.250	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 975
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 2.101 (CFS)
      Total volume = 2.769 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

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KELLER CROSSING
Drainage Area C = 91.5 Ac
Detention Basin Routing Basin C
2-year 3-hour storm
-----
```

Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

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From study/file name: kx2prh32.rte
*****HYDROGRAPH DATA*****
Number of intervals = 42
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 49.895 (CFS)
Total volume = 4.427 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

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User entry of depth-outflow-storage data

```
-----
Total number of inflow hydrograph intervals = 42
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
-----
```

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-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I' = unit inflow; 'O' = outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	12.5	24.95	37.42	49.90	Depth (Ft.)
0.083	1.99	0.01	0.007	OI					0.00
0.167	5.95	0.04	0.034	O I					0.02
0.250	6.75	0.09	0.077	O I					0.05
0.333	7.25	0.14	0.125	O I					0.07
0.417	8.58	0.20	0.178	O I					0.11
0.500	9.46	0.27	0.239	O I					0.14
0.583	10.16	0.34	0.304	O I					0.18
0.667	10.02	0.42	0.371	O I					0.22
0.750	10.83	0.50	0.439	O I					0.26
0.833	10.61	0.57	0.510	O I					0.30
0.917	9.94	0.65	0.576	O I					0.34
1.000	10.35	0.72	0.641	O I					0.38
1.083	11.55	0.80	0.711	O I					0.42
1.167	12.94	0.89	0.790	O I					0.47
1.250	13.34	0.99	0.874	O I					0.52
1.333	13.21	1.08	0.958	O I					0.57
1.417	13.64	1.18	1.043	O I					0.62
1.500	15.53	1.28	1.135	O I					0.67
1.583	15.84	1.39	1.234	O I					0.73
1.667	15.66	1.50	1.332	O I					0.79
1.750	17.38	1.62	1.435	O I					0.85
1.833	19.12	1.75	1.549	O I					0.92
1.917	18.84	1.88	1.668	O I					0.99
2.000	18.48	1.93	1.783	O I					1.04
2.083	18.83	1.95	1.898	O I					1.10
2.167	20.88	1.98	2.021	O I					1.16
2.250	25.58	2.01	2.168	O I		I			1.22
2.333	26.67	2.04	2.334	O I		I			1.30
2.417	29.11	2.08	2.511	O I		I			1.39
2.500	41.40	2.12	2.740	O I			I		1.50
2.583	49.09	2.18	3.037	O I				I	1.64
2.667	49.90	2.25	3.362	O I				I	1.79
2.750	34.87	2.31	3.638	O I			I		1.92
2.833	20.58	2.34	3.813	O I		I			2.00
2.917	16.04	2.36	3.923	O I		I			2.04
3.000	12.00	2.37	4.003	O I	I				2.07
3.083	6.19	2.37	4.050	O I	I				2.09
3.167	2.43	2.37	4.063	O I					2.09
3.250	1.05	2.37	4.059	O I					2.09
3.333	0.54	2.37	4.048	O I					2.09
3.417	0.26	2.37	4.034	O I					2.08
3.500	0.06	2.37	4.019	O I					2.08
3.583	0.00	2.37	4.003	O I					2.07
3.667	0.00	2.36	3.987	O I					2.07
3.750	0.00	2.36	3.970	O I					2.06
3.833	0.00	2.36	3.954	O I					2.05
3.917	0.00	2.36	3.938	O I					2.05
4.000	0.00	2.36	3.922	O I					2.04
4.083	0.00	2.35	3.905	O I					2.04
4.167	0.00	2.35	3.889	O I					2.03
4.250	0.00	2.35	3.873	O I					2.02
4.333	0.00	2.35	3.857	O I					2.02
4.417	0.00	2.34	3.841	O I					2.01
4.500	0.00	2.34	3.825	O I					2.01
4.583	0.00	2.34	3.808	O I					2.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	0.00	2.34	3.792	IO					1.99
4.750	0.00	2.33	3.776	IO					1.99
4.833	0.00	2.33	3.760	IO					1.98
4.917	0.00	2.33	3.744	IO					1.97
5.000	0.00	2.32	3.728	IO					1.96
5.083	0.00	2.32	3.712	IO					1.96
5.167	0.00	2.32	3.696	IO					1.95
5.250	0.00	2.31	3.680	IO					1.94
5.333	0.00	2.31	3.664	IO					1.93
5.417	0.00	2.31	3.648	IO					1.93
5.500	0.00	2.30	3.632	IO					1.92
5.583	0.00	2.30	3.617	IO					1.91
5.667	0.00	2.30	3.601	IO					1.90
5.750	0.00	2.30	3.585	IO					1.90
5.833	0.00	2.29	3.569	IO					1.89
5.917	0.00	2.29	3.553	IO					1.88
6.000	0.00	2.29	3.538	IO					1.87
6.083	0.00	2.28	3.522	IO					1.87
6.167	0.00	2.28	3.506	IO					1.86
6.250	0.00	2.28	3.490	IO					1.85
6.333	0.00	2.27	3.475	IO					1.84
6.417	0.00	2.27	3.459	IO					1.84
6.500	0.00	2.27	3.444	IO					1.83
6.583	0.00	2.26	3.428	IO					1.82
6.667	0.00	2.26	3.412	IO					1.81
6.750	0.00	2.26	3.397	IO					1.81
6.833	0.00	2.25	3.381	IO					1.80
6.917	0.00	2.25	3.366	IO					1.79
7.000	0.00	2.25	3.350	IO					1.78
7.083	0.00	2.24	3.335	IO					1.78
7.167	0.00	2.24	3.319	IO					1.77
7.250	0.00	2.24	3.304	IO					1.76
7.333	0.00	2.23	3.289	IO					1.76
7.417	0.00	2.23	3.273	IO					1.75
7.500	0.00	2.23	3.258	IO					1.74
7.583	0.00	2.23	3.243	IO					1.73
7.667	0.00	2.22	3.227	IO					1.73
7.750	0.00	2.22	3.212	IO					1.72
7.833	0.00	2.22	3.197	IO					1.71
7.917	0.00	2.21	3.181	IO					1.70
8.000	0.00	2.21	3.166	IO					1.70
8.083	0.00	2.21	3.151	IO					1.69
8.167	0.00	2.20	3.136	IO					1.68
8.250	0.00	2.20	3.121	IO					1.68
8.333	0.00	2.20	3.105	IO					1.67
8.417	0.00	2.19	3.090	IO					1.66
8.500	0.00	2.19	3.075	IO					1.65
8.583	0.00	2.19	3.060	IO					1.65
8.667	0.00	2.19	3.045	IO					1.64
8.750	0.00	2.18	3.030	IO					1.63
8.833	0.00	2.18	3.015	IO					1.63
8.917	0.00	2.18	3.000	IO					1.62
9.000	0.00	2.17	2.985	IO					1.61
9.083	0.00	2.17	2.970	IO					1.60
9.167	0.00	2.17	2.955	IO					1.60
9.250	0.00	2.16	2.940	IO					1.59
9.333	0.00	2.16	2.925	IO					1.58
9.417	0.00	2.16	2.910	IO					1.58
9.500	0.00	2.15	2.896	IO					1.57
9.583	0.00	2.15	2.881	IO					1.56
9.667	0.00	2.15	2.866	IO					1.56
9.750	0.00	2.15	2.851	IO					1.55
9.833	0.00	2.14	2.836	IO					1.54

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.14	2.822	IO					1.53
10.000	0.00	2.14	2.807	IO					1.53
10.083	0.00	2.13	2.792	IO					1.52
10.167	0.00	2.13	2.778	IO					1.51
10.250	0.00	2.13	2.763	IO					1.51
10.333	0.00	2.12	2.748	IO					1.50
10.417	0.00	2.12	2.734	IO					1.49
10.500	0.00	2.12	2.719	IO					1.49
10.583	0.00	2.12	2.704	IO					1.48
10.667	0.00	2.11	2.690	IO					1.47
10.750	0.00	2.11	2.675	IO					1.46
10.833	0.00	2.11	2.661	IO					1.46
10.917	0.00	2.10	2.646	IO					1.45
11.000	0.00	2.10	2.632	IO					1.44
11.083	0.00	2.10	2.617	IO					1.44
11.167	0.00	2.10	2.603	IO					1.43
11.250	0.00	2.09	2.589	IO					1.42
11.333	0.00	2.09	2.574	IO					1.42
11.417	0.00	2.09	2.560	IO					1.41
11.500	0.00	2.08	2.545	IO					1.40
11.583	0.00	2.08	2.531	IO					1.40
11.667	0.00	2.08	2.517	IO					1.39
11.750	0.00	2.07	2.502	IO					1.38
11.833	0.00	2.07	2.488	IO					1.38
11.917	0.00	2.07	2.474	IO					1.37
12.000	0.00	2.07	2.460	IO					1.36
12.083	0.00	2.06	2.445	IO					1.36
12.167	0.00	2.06	2.431	IO					1.35
12.250	0.00	2.06	2.417	IO					1.34
12.333	0.00	2.05	2.403	IO					1.34
12.417	0.00	2.05	2.389	IO					1.33
12.500	0.00	2.05	2.375	IO					1.32
12.583	0.00	2.05	2.361	IO					1.32
12.667	0.00	2.04	2.346	IO					1.31
12.750	0.00	2.04	2.332	IO					1.30
12.833	0.00	2.04	2.318	IO					1.30
12.917	0.00	2.03	2.304	IO					1.29
13.000	0.00	2.03	2.290	IO					1.28
13.083	0.00	2.03	2.276	IO					1.28
13.167	0.00	2.03	2.262	IO					1.27
13.250	0.00	2.02	2.248	IO					1.26
13.333	0.00	2.02	2.235	IO					1.26
13.417	0.00	2.02	2.221	IO					1.25
13.500	0.00	2.01	2.207	IO					1.24
13.583	0.00	2.01	2.193	IO					1.24
13.667	0.00	2.01	2.179	IO					1.23
13.750	0.00	2.01	2.165	IO					1.22
13.833	0.00	2.00	2.151	IO					1.22
13.917	0.00	2.00	2.138	IO					1.21
14.000	0.00	2.00	2.124	IO					1.20
14.083	0.00	1.99	2.110	IO					1.20
14.167	0.00	1.99	2.096	IO					1.19
14.250	0.00	1.99	2.083	IO					1.18
14.333	0.00	1.99	2.069	IO					1.18
14.417	0.00	1.98	2.055	IO					1.17
14.500	0.00	1.98	2.042	IO					1.17
14.583	0.00	1.98	2.028	IO					1.16
14.667	0.00	1.98	2.014	IO					1.15
14.750	0.00	1.97	2.001	IO					1.15
14.833	0.00	1.97	1.987	IO					1.14
14.917	0.00	1.97	1.974	IO					1.13
15.000	0.00	1.96	1.960	IO					1.13
15.083	0.00	1.96	1.947	IO					1.12

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.167	0.00	1.96	1.933	IO					1.11
15.250	0.00	1.96	1.920	IO					1.11
15.333	0.00	1.95	1.906	IO					1.10
15.417	0.00	1.95	1.893	IO					1.09
15.500	0.00	1.95	1.879	IO					1.09
15.583	0.00	1.95	1.866	IO					1.08
15.667	0.00	1.94	1.853	IO					1.08
15.750	0.00	1.94	1.839	IO					1.07
15.833	0.00	1.94	1.826	IO					1.06
15.917	0.00	1.93	1.812	IO					1.06
16.000	0.00	1.93	1.799	IO					1.05
16.083	0.00	1.93	1.786	IO					1.04
16.167	0.00	1.93	1.773	IO					1.04
16.250	0.00	1.92	1.759	IO					1.03
16.333	0.00	1.92	1.746	IO					1.03
16.417	0.00	1.92	1.733	IO					1.02
16.500	0.00	1.92	1.720	IO					1.01
16.583	0.00	1.91	1.706	IO					1.01
16.667	0.00	1.91	1.693	IO					1.00
16.750	0.00	1.90	1.680	IO					0.99
16.833	0.00	1.88	1.667	IO					0.98
16.917	0.00	1.87	1.654	IO					0.98
17.000	0.00	1.85	1.642	IO					0.97
17.083	0.00	1.84	1.629	IO					0.96
17.167	0.00	1.82	1.616	IO					0.95
17.250	0.00	1.81	1.604	IO					0.95
17.333	0.00	1.80	1.591	IO					0.94
17.417	0.00	1.78	1.579	IO					0.93
17.500	0.00	1.77	1.567	IO					0.93
17.583	0.00	1.75	1.555	IO					0.92
17.667	0.00	1.74	1.543	IO					0.91
17.750	0.00	1.73	1.531	IO					0.90
17.833	0.00	1.71	1.519	IO					0.90
17.917	0.00	1.70	1.507	IO					0.89
18.000	0.00	1.69	1.495	IO					0.88
18.083	0.00	1.67	1.484	IO					0.88
18.167	0.00	1.66	1.472	IO					0.87
18.250	0.00	1.65	1.461	IO					0.86
18.333	0.00	1.64	1.450	IO					0.86
18.417	0.00	1.62	1.438	IO					0.85
18.500	0.00	1.61	1.427	IO					0.84
18.583	0.00	1.60	1.416	IO					0.84
18.667	0.00	1.59	1.405	IO					0.83
18.750	0.00	1.57	1.394	IO					0.82
18.833	0.00	1.56	1.384	IO					0.82
18.917	0.00	1.55	1.373	O					0.81
19.000	0.00	1.54	1.362	O					0.80
19.083	0.00	1.52	1.352	O					0.80
19.167	0.00	1.51	1.341	O					0.79
19.250	0.00	1.50	1.331	O					0.79
19.333	0.00	1.49	1.321	O					0.78
19.417	0.00	1.48	1.310	O					0.77
19.500	0.00	1.47	1.300	O					0.77
19.583	0.00	1.46	1.290	O					0.76
19.667	0.00	1.44	1.280	O					0.76
19.750	0.00	1.43	1.270	O					0.75
19.833	0.00	1.42	1.260	O					0.74
19.917	0.00	1.41	1.251	O					0.74
20.000	0.00	1.40	1.241	O					0.73
20.083	0.00	1.39	1.231	O					0.73
20.167	0.00	1.38	1.222	O					0.72
20.250	0.00	1.37	1.212	O					0.72
20.333	0.00	1.36	1.203	O					0.71

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	1.35	1.194	0					0.71
20.500	0.00	1.34	1.184	0					0.70
20.583	0.00	1.33	1.175	0					0.69
20.667	0.00	1.32	1.166	0					0.69
20.750	0.00	1.31	1.157	0					0.68
20.833	0.00	1.30	1.148	0					0.68
20.917	0.00	1.29	1.139	0					0.67
21.000	0.00	1.28	1.131	0					0.67
21.083	0.00	1.27	1.122	0					0.66
21.167	0.00	1.26	1.113	0					0.66
21.250	0.00	1.25	1.104	0					0.65
21.333	0.00	1.24	1.096	0					0.65
21.417	0.00	1.23	1.087	0					0.64
21.500	0.00	1.22	1.079	0					0.64
21.583	0.00	1.21	1.071	0					0.63
21.667	0.00	1.20	1.062	0					0.63
21.750	0.00	1.19	1.054	0					0.62
21.833	0.00	1.18	1.046	0					0.62
21.917	0.00	1.17	1.038	0					0.61
22.000	0.00	1.16	1.030	0					0.61
22.083	0.00	1.15	1.022	0					0.60
22.167	0.00	1.14	1.014	0					0.60
22.250	0.00	1.14	1.006	0					0.59
22.333	0.00	1.13	0.998	0					0.59
22.417	0.00	1.12	0.991	0					0.59
22.500	0.00	1.11	0.983	0					0.58
22.583	0.00	1.10	0.975	0					0.58
22.667	0.00	1.09	0.968	0					0.57
22.750	0.00	1.08	0.960	0					0.57
22.833	0.00	1.08	0.953	0					0.56
22.917	0.00	1.07	0.945	0					0.56
23.000	0.00	1.06	0.938	0					0.55
23.083	0.00	1.05	0.931	0					0.55
23.167	0.00	1.04	0.924	0					0.55
23.250	0.00	1.03	0.917	0					0.54
23.333	0.00	1.03	0.909	0					0.54
23.417	0.00	1.02	0.902	0					0.53
23.500	0.00	1.01	0.895	0					0.53
23.583	0.00	1.00	0.889	0					0.52
23.667	0.00	0.99	0.882	0					0.52
23.750	0.00	0.99	0.875	0					0.52
23.833	0.00	0.98	0.868	0					0.51
23.917	0.00	0.97	0.861	0					0.51
24.000	0.00	0.96	0.855	0					0.50
24.083	0.00	0.96	0.848	0					0.50
24.167	0.00	0.95	0.841	0					0.50
24.250	0.00	0.94	0.835	0					0.49
24.333	0.00	0.93	0.829	0					0.49
24.417	0.00	0.93	0.822	0					0.49
24.500	0.00	0.92	0.816	0					0.48
24.583	0.00	0.91	0.809	0					0.48
24.667	0.00	0.91	0.803	0					0.47
24.750	0.00	0.90	0.797	0					0.47
24.833	0.00	0.89	0.791	0					0.47
24.917	0.00	0.89	0.785	0					0.46
25.000	0.00	0.88	0.779	0					0.46
25.083	0.00	0.87	0.773	0					0.46
25.167	0.00	0.86	0.767	0					0.45
25.250	0.00	0.86	0.761	0					0.45
25.333	0.00	0.85	0.755	0					0.45
25.417	0.00	0.84	0.749	0					0.44
25.500	0.00	0.84	0.743	0					0.44
25.583	0.00	0.83	0.737	0					0.44

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	0.83	0.732	o					0.43
25.750	0.00	0.82	0.726	o					0.43
25.833	0.00	0.81	0.720	o					0.43
25.917	0.00	0.81	0.715	o					0.42
26.000	0.00	0.80	0.709	o					0.42
26.083	0.00	0.79	0.704	o					0.42
26.167	0.00	0.79	0.698	o					0.41
26.250	0.00	0.78	0.693	o					0.41
26.333	0.00	0.78	0.688	o					0.41
26.417	0.00	0.77	0.682	o					0.40
26.500	0.00	0.76	0.677	o					0.40
26.583	0.00	0.76	0.672	o					0.40
26.667	0.00	0.75	0.667	o					0.39
26.750	0.00	0.75	0.661	o					0.39
26.833	0.00	0.74	0.656	o					0.39
26.917	0.00	0.73	0.651	o					0.38
27.000	0.00	0.73	0.646	o					0.38
27.083	0.00	0.72	0.641	o					0.38
27.167	0.00	0.72	0.636	o					0.38
27.250	0.00	0.71	0.631	o					0.37
27.333	0.00	0.71	0.626	o					0.37
27.417	0.00	0.70	0.622	o					0.37
27.500	0.00	0.70	0.617	o					0.36
27.583	0.00	0.69	0.612	o					0.36
27.667	0.00	0.69	0.607	o					0.36
27.750	0.00	0.68	0.602	o					0.36
27.833	0.00	0.67	0.598	o					0.35
27.917	0.00	0.67	0.593	o					0.35
28.000	0.00	0.66	0.589	o					0.35
28.083	0.00	0.66	0.584	o					0.34
28.167	0.00	0.65	0.580	o					0.34
28.250	0.00	0.65	0.575	o					0.34
28.333	0.00	0.64	0.571	o					0.34
28.417	0.00	0.64	0.566	o					0.33
28.500	0.00	0.63	0.562	o					0.33
28.583	0.00	0.63	0.557	o					0.33
28.667	0.00	0.62	0.553	o					0.33
28.750	0.00	0.62	0.549	o					0.32
28.833	0.00	0.61	0.545	o					0.32
28.917	0.00	0.61	0.540	o					0.32
29.000	0.00	0.60	0.536	o					0.32
29.083	0.00	0.60	0.532	o					0.31
29.167	0.00	0.60	0.528	o					0.31
29.250	0.00	0.59	0.524	o					0.31
29.333	0.00	0.59	0.520	o					0.31
29.417	0.00	0.58	0.516	o					0.30
29.500	0.00	0.58	0.512	o					0.30
29.583	0.00	0.57	0.508	o					0.30
29.667	0.00	0.57	0.504	o					0.30
29.750	0.00	0.56	0.500	o					0.30
29.833	0.00	0.56	0.496	o					0.29
29.917	0.00	0.56	0.492	o					0.29
30.000	0.00	0.55	0.488	o					0.29
30.083	0.00	0.55	0.485	o					0.29
30.167	0.00	0.54	0.481	o					0.28
30.250	0.00	0.54	0.477	o					0.28
30.333	0.00	0.53	0.474	o					0.28
30.417	0.00	0.53	0.470	o					0.28
30.500	0.00	0.53	0.466	o					0.28
30.583	0.00	0.52	0.463	o					0.27
30.667	0.00	0.52	0.459	o					0.27
30.750	0.00	0.51	0.455	o					0.27
30.833	0.00	0.51	0.452	o					0.27

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	0.51	0.448	0					0.26
31.000	0.00	0.50	0.445	0					0.26
31.083	0.00	0.50	0.442	0					0.26
31.167	0.00	0.49	0.438	0					0.26
31.250	0.00	0.49	0.435	0					0.26
31.333	0.00	0.49	0.431	0					0.25
31.417	0.00	0.48	0.428	0					0.25
31.500	0.00	0.48	0.425	0					0.25
31.583	0.00	0.48	0.421	0					0.25
31.667	0.00	0.47	0.418	0					0.25
31.750	0.00	0.47	0.415	0					0.25
31.833	0.00	0.46	0.412	0					0.24
31.917	0.00	0.46	0.409	0					0.24
32.000	0.00	0.46	0.405	0					0.24
32.083	0.00	0.45	0.402	0					0.24
32.167	0.00	0.45	0.399	0					0.24
32.250	0.00	0.45	0.396	0					0.23
32.333	0.00	0.44	0.393	0					0.23
32.417	0.00	0.44	0.390	0					0.23
32.500	0.00	0.44	0.387	0					0.23
32.583	0.00	0.43	0.384	0					0.23
32.667	0.00	0.43	0.381	0					0.23
32.750	0.00	0.43	0.378	0					0.22
32.833	0.00	0.42	0.375	0					0.22
32.917	0.00	0.42	0.372	0					0.22
33.000	0.00	0.42	0.369	0					0.22
33.083	0.00	0.41	0.366	0					0.22
33.167	0.00	0.41	0.364	0					0.21
33.250	0.00	0.41	0.361	0					0.21
33.333	0.00	0.40	0.358	0					0.21
33.417	0.00	0.40	0.355	0					0.21
33.500	0.00	0.40	0.352	0					0.21
33.583	0.00	0.39	0.350	0					0.21
33.667	0.00	0.39	0.347	0					0.20
33.750	0.00	0.39	0.344	0					0.20
33.833	0.00	0.39	0.342	0					0.20
33.917	0.00	0.38	0.339	0					0.20
34.000	0.00	0.38	0.336	0					0.20
34.083	0.00	0.38	0.334	0					0.20
34.167	0.00	0.37	0.331	0					0.20
34.250	0.00	0.37	0.329	0					0.19
34.333	0.00	0.37	0.326	0					0.19
34.417	0.00	0.37	0.324	0					0.19
34.500	0.00	0.36	0.321	0					0.19
34.583	0.00	0.36	0.319	0					0.19
34.667	0.00	0.36	0.316	0					0.19
34.750	0.00	0.35	0.314	0					0.19
34.833	0.00	0.35	0.311	0					0.18
34.917	0.00	0.35	0.309	0					0.18
35.000	0.00	0.35	0.306	0					0.18
35.083	0.00	0.34	0.304	0					0.18
35.167	0.00	0.34	0.302	0					0.18
35.250	0.00	0.34	0.299	0					0.18
35.333	0.00	0.34	0.297	0					0.18
35.417	0.00	0.33	0.295	0					0.17
35.500	0.00	0.33	0.293	0					0.17
35.583	0.00	0.33	0.290	0					0.17
35.667	0.00	0.32	0.288	0					0.17
35.750	0.00	0.32	0.286	0					0.17
35.833	0.00	0.32	0.284	0					0.17
35.917	0.00	0.32	0.281	0					0.17
36.000	0.00	0.31	0.279	0					0.16
36.083	0.00	0.31	0.277	0					0.16



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	0.31	0.275	0					0.16
36.250	0.00	0.31	0.273	0					0.16
36.333	0.00	0.31	0.271	0					0.16
36.417	0.00	0.30	0.269	0					0.16
36.500	0.00	0.30	0.266	0					0.16
36.583	0.00	0.30	0.264	0					0.16
36.667	0.00	0.30	0.262	0					0.15
36.750	0.00	0.29	0.260	0					0.15
36.833	0.00	0.29	0.258	0					0.15
36.917	0.00	0.29	0.256	0					0.15
37.000	0.00	0.29	0.254	0					0.15
37.083	0.00	0.28	0.252	0					0.15
37.167	0.00	0.28	0.250	0					0.15
37.250	0.00	0.28	0.248	0					0.15
37.333	0.00	0.28	0.247	0					0.15
37.417	0.00	0.28	0.245	0					0.14
37.500	0.00	0.27	0.243	0					0.14
37.583	0.00	0.27	0.241	0					0.14
37.667	0.00	0.27	0.239	0					0.14
37.750	0.00	0.27	0.237	0					0.14
37.833	0.00	0.27	0.235	0					0.14
37.917	0.00	0.26	0.233	0					0.14
38.000	0.00	0.26	0.232	0					0.14
38.083	0.00	0.26	0.230	0					0.14
38.167	0.00	0.26	0.228	0					0.13
38.250	0.00	0.26	0.226	0					0.13
38.333	0.00	0.25	0.225	0					0.13
38.417	0.00	0.25	0.223	0					0.13
38.500	0.00	0.25	0.221	0					0.13
38.583	0.00	0.25	0.219	0					0.13
38.667	0.00	0.25	0.218	0					0.13
38.750	0.00	0.24	0.216	0					0.13
38.833	0.00	0.24	0.214	0					0.13
38.917	0.00	0.24	0.213	0					0.13
39.000	0.00	0.24	0.211	0					0.12
39.083	0.00	0.24	0.209	0					0.12
39.167	0.00	0.23	0.208	0					0.12
39.250	0.00	0.23	0.206	0					0.12
39.333	0.00	0.23	0.205	0					0.12
39.417	0.00	0.23	0.203	0					0.12
39.500	0.00	0.23	0.201	0					0.12
39.583	0.00	0.23	0.200	0					0.12
39.667	0.00	0.22	0.198	0					0.12
39.750	0.00	0.22	0.197	0					0.12
39.833	0.00	0.22	0.195	0					0.12
39.917	0.00	0.22	0.194	0					0.11
40.000	0.00	0.22	0.192	0					0.11
40.083	0.00	0.22	0.191	0					0.11
40.167	0.00	0.21	0.189	0					0.11
40.250	0.00	0.21	0.188	0					0.11
40.333	0.00	0.21	0.186	0					0.11
40.417	0.00	0.21	0.185	0					0.11
40.500	0.00	0.21	0.184	0					0.11
40.583	0.00	0.21	0.182	0					0.11
40.667	0.00	0.20	0.181	0					0.11
40.750	0.00	0.20	0.179	0					0.11
40.833	0.00	0.20	0.178	0					0.11
40.917	0.00	0.20	0.177	0					0.10
41.000	0.00	0.20	0.175	0					0.10
41.083	0.00	0.20	0.174	0					0.10
41.167	0.00	0.19	0.172	0					0.10
41.250	0.00	0.19	0.171	0					0.10
41.333	0.00	0.19	0.170	0					0.10

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	0.19	0.168	o					0.10
41.500	0.00	0.19	0.167	o					0.10
41.583	0.00	0.19	0.166	o					0.10
41.667	0.00	0.19	0.165	o					0.10
41.750	0.00	0.18	0.163	o					0.10
41.833	0.00	0.18	0.162	o					0.10
41.917	0.00	0.18	0.161	o					0.09
42.000	0.00	0.18	0.160	o					0.09
42.083	0.00	0.18	0.158	o					0.09
42.167	0.00	0.18	0.157	o					0.09
42.250	0.00	0.18	0.156	o					0.09
42.333	0.00	0.17	0.155	o					0.09
42.417	0.00	0.17	0.153	o					0.09
42.500	0.00	0.17	0.152	o					0.09
42.583	0.00	0.17	0.151	o					0.09
42.667	0.00	0.17	0.150	o					0.09
42.750	0.00	0.17	0.149	o					0.09
42.833	0.00	0.17	0.148	o					0.09
42.917	0.00	0.17	0.146	o					0.09
43.000	0.00	0.16	0.145	o					0.09
43.083	0.00	0.16	0.144	o					0.09
43.167	0.00	0.16	0.143	o					0.08
43.250	0.00	0.16	0.142	o					0.08
43.333	0.00	0.16	0.141	o					0.08
43.417	0.00	0.16	0.140	o					0.08
43.500	0.00	0.16	0.139	o					0.08
43.583	0.00	0.16	0.138	o					0.08
43.667	0.00	0.15	0.137	o					0.08
43.750	0.00	0.15	0.136	o					0.08
43.833	0.00	0.15	0.134	o					0.08
43.917	0.00	0.15	0.133	o					0.08
44.000	0.00	0.15	0.132	o					0.08
44.083	0.00	0.15	0.131	o					0.08
44.167	0.00	0.15	0.130	o					0.08
44.250	0.00	0.15	0.129	o					0.08
44.333	0.00	0.14	0.128	o					0.08
44.417	0.00	0.14	0.127	o					0.08
44.500	0.00	0.14	0.126	o					0.07
44.583	0.00	0.14	0.125	o					0.07
44.667	0.00	0.14	0.124	o					0.07
44.750	0.00	0.14	0.123	o					0.07
44.833	0.00	0.14	0.123	o					0.07
44.917	0.00	0.14	0.122	o					0.07
45.000	0.00	0.14	0.121	o					0.07
45.083	0.00	0.14	0.120	o					0.07
45.167	0.00	0.13	0.119	o					0.07
45.250	0.00	0.13	0.118	o					0.07
45.333	0.00	0.13	0.117	o					0.07
45.417	0.00	0.13	0.116	o					0.07
45.500	0.00	0.13	0.115	o					0.07
45.583	0.00	0.13	0.114	o					0.07
45.667	0.00	0.13	0.113	o					0.07
45.750	0.00	0.13	0.112	o					0.07
45.833	0.00	0.13	0.112	o					0.07
45.917	0.00	0.12	0.111	o					0.07
46.000	0.00	0.12	0.110	o					0.06
46.083	0.00	0.12	0.109	o					0.06
46.167	0.00	0.12	0.108	o					0.06
46.250	0.00	0.12	0.107	o					0.06
46.333	0.00	0.12	0.107	o					0.06
46.417	0.00	0.12	0.106	o					0.06
46.500	0.00	0.12	0.105	o					0.06
46.583	0.00	0.12	0.104	o					0.06

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.12	0.103	o					0.06
46.750	0.00	0.12	0.102	o					0.06
46.833	0.00	0.11	0.102	o					0.06
46.917	0.00	0.11	0.101	o					0.06
47.000	0.00	0.11	0.100	o					0.06
47.083	0.00	0.11	0.099	o					0.06
47.167	0.00	0.11	0.099	o					0.06
47.250	0.00	0.11	0.098	o					0.06
47.333	0.00	0.11	0.097	o					0.06
47.417	0.00	0.11	0.096	o					0.06
47.500	0.00	0.11	0.096	o					0.06
47.583	0.00	0.11	0.095	o					0.06
47.667	0.00	0.11	0.094	o					0.06
47.750	0.00	0.11	0.093	o					0.06
47.833	0.00	0.10	0.093	o					0.05
47.917	0.00	0.10	0.092	o					0.05
48.000	0.00	0.10	0.091	o					0.05
48.083	0.00	0.10	0.090	o					0.05
48.167	0.00	0.10	0.090	o					0.05
48.250	0.00	0.10	0.089	o					0.05
48.333	0.00	0.10	0.088	o					0.05
48.417	0.00	0.10	0.088	o					0.05
48.500	0.00	0.10	0.087	o					0.05
48.583	0.00	0.10	0.086	o					0.05
48.667	0.00	0.10	0.086	o					0.05
48.750	0.00	0.10	0.085	o					0.05
48.833	0.00	0.10	0.084	o					0.05
48.917	0.00	0.09	0.084	o					0.05
49.000	0.00	0.09	0.083	o					0.05
49.083	0.00	0.09	0.082	o					0.05
49.167	0.00	0.09	0.082	o					0.05
49.250	0.00	0.09	0.081	o					0.05
49.333	0.00	0.09	0.081	o					0.05
49.417	0.00	0.09	0.080	o					0.05
49.500	0.00	0.09	0.079	o					0.05
49.583	0.00	0.09	0.079	o					0.05
49.667	0.00	0.09	0.078	o					0.05
49.750	0.00	0.09	0.077	o					0.05
49.833	0.00	0.09	0.077	o					0.05
49.917	0.00	0.09	0.076	o					0.05
50.000	0.00	0.09	0.076	o					0.04
50.083	0.00	0.08	0.075	o					0.04
50.167	0.00	0.08	0.075	o					0.04
50.250	0.00	0.08	0.074	o					0.04
50.333	0.00	0.08	0.073	o					0.04
50.417	0.00	0.08	0.073	o					0.04
50.500	0.00	0.08	0.072	o					0.04
50.583	0.00	0.08	0.072	o					0.04
50.667	0.00	0.08	0.071	o					0.04
50.750	0.00	0.08	0.071	o					0.04
50.833	0.00	0.08	0.070	o					0.04
50.917	0.00	0.08	0.069	o					0.04
51.000	0.00	0.08	0.069	o					0.04
51.083	0.00	0.08	0.068	o					0.04
51.167	0.00	0.08	0.068	o					0.04
51.250	0.00	0.08	0.067	o					0.04
51.333	0.00	0.08	0.067	o					0.04
51.417	0.00	0.07	0.066	o					0.04
51.500	0.00	0.07	0.066	o					0.04
51.583	0.00	0.07	0.065	o					0.04
51.667	0.00	0.07	0.065	o					0.04
51.750	0.00	0.07	0.064	o					0.04
51.833	0.00	0.07	0.064	o					0.04

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.07	0.063	0					0.04
52.000	0.00	0.07	0.063	0					0.04
52.083	0.00	0.07	0.062	0					0.04
52.167	0.00	0.07	0.062	0					0.04
52.250	0.00	0.07	0.061	0					0.04
52.333	0.00	0.07	0.061	0					0.04
52.417	0.00	0.07	0.060	0					0.04
52.500	0.00	0.07	0.060	0					0.04
52.583	0.00	0.07	0.059	0					0.04
52.667	0.00	0.07	0.059	0					0.03
52.750	0.00	0.07	0.059	0					0.03
52.833	0.00	0.07	0.058	0					0.03
52.917	0.00	0.07	0.058	0					0.03
53.000	0.00	0.06	0.057	0					0.03
53.083	0.00	0.06	0.057	0					0.03
53.167	0.00	0.06	0.056	0					0.03
53.250	0.00	0.06	0.056	0					0.03
53.333	0.00	0.06	0.055	0					0.03
53.417	0.00	0.06	0.055	0					0.03
53.500	0.00	0.06	0.055	0					0.03
53.583	0.00	0.06	0.054	0					0.03
53.667	0.00	0.06	0.054	0					0.03
53.750	0.00	0.06	0.053	0					0.03
53.833	0.00	0.06	0.053	0					0.03
53.917	0.00	0.06	0.053	0					0.03
54.000	0.00	0.06	0.052	0					0.03
54.083	0.00	0.06	0.052	0					0.03
54.167	0.00	0.06	0.051	0					0.03
54.250	0.00	0.06	0.051	0					0.03
54.333	0.00	0.06	0.051	0					0.03
54.417	0.00	0.06	0.050	0					0.03
54.500	0.00	0.06	0.050	0					0.03
54.583	0.00	0.06	0.049	0					0.03
54.667	0.00	0.06	0.049	0					0.03
54.750	0.00	0.05	0.049	0					0.03
54.833	0.00	0.05	0.048	0					0.03
54.917	0.00	0.05	0.048	0					0.03
55.000	0.00	0.05	0.047	0					0.03
55.083	0.00	0.05	0.047	0					0.03
55.167	0.00	0.05	0.047	0					0.03
55.250	0.00	0.05	0.046	0					0.03
55.333	0.00	0.05	0.046	0					0.03
55.417	0.00	0.05	0.046	0					0.03
55.500	0.00	0.05	0.045	0					0.03
55.583	0.00	0.05	0.045	0					0.03
55.667	0.00	0.05	0.045	0					0.03
55.750	0.00	0.05	0.044	0					0.03
55.833	0.00	0.05	0.044	0					0.03
55.917	0.00	0.05	0.044	0					0.03
56.000	0.00	0.05	0.043	0					0.03
56.083	0.00	0.05	0.043	0					0.03
56.167	0.00	0.05	0.043	0					0.03
56.250	0.00	0.05	0.042	0					0.02
56.333	0.00	0.05	0.042	0					0.02
56.417	0.00	0.05	0.042	0					0.02
56.500	0.00	0.05	0.041	0					0.02
56.583	0.00	0.05	0.041	0					0.02
56.667	0.00	0.05	0.041	0					0.02
56.750	0.00	0.05	0.040	0					0.02
56.833	0.00	0.05	0.040	0					0.02
56.917	0.00	0.04	0.040	0					0.02
57.000	0.00	0.04	0.039	0					0.02
57.083	0.00	0.04	0.039	0					0.02

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.04	0.039	o					0.02
57.250	0.00	0.04	0.038	o					0.02
57.333	0.00	0.04	0.038	o					0.02
57.417	0.00	0.04	0.038	o					0.02
57.500	0.00	0.04	0.038	o					0.02
57.583	0.00	0.04	0.037	o					0.02
57.667	0.00	0.04	0.037	o					0.02
57.750	0.00	0.04	0.037	o					0.02
57.833	0.00	0.04	0.036	o					0.02
57.917	0.00	0.04	0.036	o					0.02
58.000	0.00	0.04	0.036	o					0.02
58.083	0.00	0.04	0.036	o					0.02
58.167	0.00	0.04	0.035	o					0.02
58.250	0.00	0.04	0.035	o					0.02
58.333	0.00	0.04	0.035	o					0.02
58.417	0.00	0.04	0.035	o					0.02
58.500	0.00	0.04	0.034	o					0.02
58.583	0.00	0.04	0.034	o					0.02
58.667	0.00	0.04	0.034	o					0.02
58.750	0.00	0.04	0.033	o					0.02
58.833	0.00	0.04	0.033	o					0.02
58.917	0.00	0.04	0.033	o					0.02
59.000	0.00	0.04	0.033	o					0.02
59.083	0.00	0.04	0.032	o					0.02
59.167	0.00	0.04	0.032	o					0.02
59.250	0.00	0.04	0.032	o					0.02
59.333	0.00	0.04	0.032	o					0.02
59.417	0.00	0.04	0.031	o					0.02
59.500	0.00	0.04	0.031	o					0.02
59.583	0.00	0.03	0.031	o					0.02
59.667	0.00	0.03	0.031	o					0.02
59.750	0.00	0.03	0.030	o					0.02
59.833	0.00	0.03	0.030	o					0.02
59.917	0.00	0.03	0.030	o					0.02
60.000	0.00	0.03	0.030	o					0.02
60.083	0.00	0.03	0.030	o					0.02
60.167	0.00	0.03	0.029	o					0.02
60.250	0.00	0.03	0.029	o					0.02
60.333	0.00	0.03	0.029	o					0.02
60.417	0.00	0.03	0.029	o					0.02
60.500	0.00	0.03	0.028	o					0.02
60.583	0.00	0.03	0.028	o					0.02
60.667	0.00	0.03	0.028	o					0.02
60.750	0.00	0.03	0.028	o					0.02
60.833	0.00	0.03	0.028	o					0.02
60.917	0.00	0.03	0.027	o					0.02
61.000	0.00	0.03	0.027	o					0.02
61.083	0.00	0.03	0.027	o					0.02
61.167	0.00	0.03	0.027	o					0.02
61.250	0.00	0.03	0.027	o					0.02
61.333	0.00	0.03	0.026	o					0.02
61.417	0.00	0.03	0.026	o					0.02
61.500	0.00	0.03	0.026	o					0.02
61.583	0.00	0.03	0.026	o					0.02
61.667	0.00	0.03	0.026	o					0.02
61.750	0.00	0.03	0.025	o					0.01
61.833	0.00	0.03	0.025	o					0.01
61.917	0.00	0.03	0.025	o					0.01
62.000	0.00	0.03	0.025	o					0.01
62.083	0.00	0.03	0.025	o					0.01
62.167	0.00	0.03	0.024	o					0.01
62.250	0.00	0.03	0.024	o					0.01
62.333	0.00	0.03	0.024	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.03	0.024	o					0.01
62.500	0.00	0.03	0.024	o					0.01
62.583	0.00	0.03	0.023	o					0.01
62.667	0.00	0.03	0.023	o					0.01
62.750	0.00	0.03	0.023	o					0.01
62.833	0.00	0.03	0.023	o					0.01
62.917	0.00	0.03	0.023	o					0.01
63.000	0.00	0.03	0.023	o					0.01
63.083	0.00	0.03	0.022	o					0.01
63.167	0.00	0.03	0.022	o					0.01
63.250	0.00	0.02	0.022	o					0.01
63.333	0.00	0.02	0.022	o					0.01
63.417	0.00	0.02	0.022	o					0.01
63.500	0.00	0.02	0.021	o					0.01
63.583	0.00	0.02	0.021	o					0.01
63.667	0.00	0.02	0.021	o					0.01
63.750	0.00	0.02	0.021	o					0.01
63.833	0.00	0.02	0.021	o					0.01
63.917	0.00	0.02	0.021	o					0.01
64.000	0.00	0.02	0.021	o					0.01
64.083	0.00	0.02	0.020	o					0.01
64.167	0.00	0.02	0.020	o					0.01
64.250	0.00	0.02	0.020	o					0.01
64.333	0.00	0.02	0.020	o					0.01
64.417	0.00	0.02	0.020	o					0.01
64.500	0.00	0.02	0.020	o					0.01
64.583	0.00	0.02	0.019	o					0.01
64.667	0.00	0.02	0.019	o					0.01
64.750	0.00	0.02	0.019	o					0.01
64.833	0.00	0.02	0.019	o					0.01
64.917	0.00	0.02	0.019	o					0.01
65.000	0.00	0.02	0.019	o					0.01
65.083	0.00	0.02	0.019	o					0.01
65.167	0.00	0.02	0.018	o					0.01
65.250	0.00	0.02	0.018	o					0.01
65.333	0.00	0.02	0.018	o					0.01
65.417	0.00	0.02	0.018	o					0.01
65.500	0.00	0.02	0.018	o					0.01
65.583	0.00	0.02	0.018	o					0.01
65.667	0.00	0.02	0.018	o					0.01
65.750	0.00	0.02	0.017	o					0.01
65.833	0.00	0.02	0.017	o					0.01
65.917	0.00	0.02	0.017	o					0.01
66.000	0.00	0.02	0.017	o					0.01
66.083	0.00	0.02	0.017	o					0.01
66.167	0.00	0.02	0.017	o					0.01
66.250	0.00	0.02	0.017	o					0.01
66.333	0.00	0.02	0.017	o					0.01
66.417	0.00	0.02	0.016	o					0.01
66.500	0.00	0.02	0.016	o					0.01
66.583	0.00	0.02	0.016	o					0.01
66.667	0.00	0.02	0.016	o					0.01
66.750	0.00	0.02	0.016	o					0.01
66.833	0.00	0.02	0.016	o					0.01
66.917	0.00	0.02	0.016	o					0.01
67.000	0.00	0.02	0.016	o					0.01
67.083	0.00	0.02	0.015	o					0.01
67.167	0.00	0.02	0.015	o					0.01
67.250	0.00	0.02	0.015	o					0.01
67.333	0.00	0.02	0.015	o					0.01
67.417	0.00	0.02	0.015	o					0.01
67.500	0.00	0.02	0.015	o					0.01
67.583	0.00	0.02	0.015	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.02	0.015	o					0.01
67.750	0.00	0.02	0.014	o					0.01
67.833	0.00	0.02	0.014	o					0.01
67.917	0.00	0.02	0.014	o					0.01
68.000	0.00	0.02	0.014	o					0.01
68.083	0.00	0.02	0.014	o					0.01
68.167	0.00	0.02	0.014	o					0.01
68.250	0.00	0.02	0.014	o					0.01
68.333	0.00	0.02	0.014	o					0.01
68.417	0.00	0.02	0.014	o					0.01
68.500	0.00	0.02	0.013	o					0.01
68.583	0.00	0.02	0.013	o					0.01
68.667	0.00	0.01	0.013	o					0.01
68.750	0.00	0.01	0.013	o					0.01
68.833	0.00	0.01	0.013	o					0.01
68.917	0.00	0.01	0.013	o					0.01
69.000	0.00	0.01	0.013	o					0.01
69.083	0.00	0.01	0.013	o					0.01
69.167	0.00	0.01	0.013	o					0.01
69.250	0.00	0.01	0.013	o					0.01
69.333	0.00	0.01	0.012	o					0.01
69.417	0.00	0.01	0.012	o					0.01
69.500	0.00	0.01	0.012	o					0.01
69.583	0.00	0.01	0.012	o					0.01
69.667	0.00	0.01	0.012	o					0.01
69.750	0.00	0.01	0.012	o					0.01
69.833	0.00	0.01	0.012	o					0.01
69.917	0.00	0.01	0.012	o					0.01
70.000	0.00	0.01	0.012	o					0.01
70.083	0.00	0.01	0.012	o					0.01
70.167	0.00	0.01	0.012	o					0.01
70.250	0.00	0.01	0.011	o					0.01
70.333	0.00	0.01	0.011	o					0.01
70.417	0.00	0.01	0.011	o					0.01
70.500	0.00	0.01	0.011	o					0.01
70.583	0.00	0.01	0.011	o					0.01
70.667	0.00	0.01	0.011	o					0.01
70.750	0.00	0.01	0.011	o					0.01
70.833	0.00	0.01	0.011	o					0.01
70.917	0.00	0.01	0.011	o					0.01
71.000	0.00	0.01	0.011	o					0.01
71.083	0.00	0.01	0.011	o					0.01
71.167	0.00	0.01	0.011	o					0.01
71.250	0.00	0.01	0.010	o					0.01
71.333	0.00	0.01	0.010	o					0.01
71.417	0.00	0.01	0.010	o					0.01
71.500	0.00	0.01	0.010	o					0.01
71.583	0.00	0.01	0.010	o					0.01
71.667	0.00	0.01	0.010	o					0.01
71.750	0.00	0.01	0.010	o					0.01
71.833	0.00	0.01	0.010	o					0.01
71.917	0.00	0.01	0.010	o					0.01
72.000	0.00	0.01	0.010	o					0.01
72.083	0.00	0.01	0.010	o					0.01
72.167	0.00	0.01	0.010	o					0.01
72.250	0.00	0.01	0.010	o					0.01
72.333	0.00	0.01	0.009	o					0.01
72.417	0.00	0.01	0.009	o					0.01
72.500	0.00	0.01	0.009	o					0.01
72.583	0.00	0.01	0.009	o					0.01
72.667	0.00	0.01	0.009	o					0.01
72.750	0.00	0.01	0.009	o					0.01
72.833	0.00	0.01	0.009	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.01	0.009	o					0.01
73.000	0.00	0.01	0.009	o					0.01
73.083	0.00	0.01	0.009	o					0.01
73.167	0.00	0.01	0.009	o					0.01
73.250	0.00	0.01	0.009	o					0.01
73.333	0.00	0.01	0.009	o					0.01
73.417	0.00	0.01	0.009	o					0.01
73.500	0.00	0.01	0.008	o					0.00
73.583	0.00	0.01	0.008	o					0.00
73.667	0.00	0.01	0.008	o					0.00
73.750	0.00	0.01	0.008	o					0.00
73.833	0.00	0.01	0.008	o					0.00
73.917	0.00	0.01	0.008	o					0.00
74.000	0.00	0.01	0.008	o					0.00
74.083	0.00	0.01	0.008	o					0.00
74.167	0.00	0.01	0.008	o					0.00
74.250	0.00	0.01	0.008	o					0.00
74.333	0.00	0.01	0.008	o					0.00
74.417	0.00	0.01	0.008	o					0.00
74.500	0.00	0.01	0.008	o					0.00
74.583	0.00	0.01	0.008	o					0.00
74.667	0.00	0.01	0.008	o					0.00
74.750	0.00	0.01	0.008	o					0.00
74.833	0.00	0.01	0.007	o					0.00
74.917	0.00	0.01	0.007	o					0.00
75.000	0.00	0.01	0.007	o					0.00
75.083	0.00	0.01	0.007	o					0.00
75.167	0.00	0.01	0.007	o					0.00
75.250	0.00	0.01	0.007	o					0.00
75.333	0.00	0.01	0.007	o					0.00
75.417	0.00	0.01	0.007	o					0.00
75.500	0.00	0.01	0.007	o					0.00
75.583	0.00	0.01	0.007	o					0.00
75.667	0.00	0.01	0.007	o					0.00
75.750	0.00	0.01	0.007	o					0.00
75.833	0.00	0.01	0.007	o					0.00
75.917	0.00	0.01	0.007	o					0.00
76.000	0.00	0.01	0.007	o					0.00
76.083	0.00	0.01	0.007	o					0.00
76.167	0.00	0.01	0.007	o					0.00
76.250	0.00	0.01	0.007	o					0.00
76.333	0.00	0.01	0.006	o					0.00
76.417	0.00	0.01	0.006	o					0.00
76.500	0.00	0.01	0.006	o					0.00
76.583	0.00	0.01	0.006	o					0.00
76.667	0.00	0.01	0.006	o					0.00
76.750	0.00	0.01	0.006	o					0.00
76.833	0.00	0.01	0.006	o					0.00
76.917	0.00	0.01	0.006	o					0.00
77.000	0.00	0.01	0.006	o					0.00
77.083	0.00	0.01	0.006	o					0.00
77.167	0.00	0.01	0.006	o					0.00
77.250	0.00	0.01	0.006	o					0.00
77.333	0.00	0.01	0.006	o					0.00
77.417	0.00	0.01	0.006	o					0.00
77.500	0.00	0.01	0.006	o					0.00
77.583	0.00	0.01	0.006	o					0.00
77.667	0.00	0.01	0.006	o					0.00
77.750	0.00	0.01	0.006	o					0.00
77.833	0.00	0.01	0.006	o					0.00
77.917	0.00	0.01	0.006	o					0.00
78.000	0.00	0.01	0.006	o					0.00
78.083	0.00	0.01	0.006	o					0.00



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.01	0.005	0					0.00
78.250	0.00	0.01	0.005	0					0.00
78.333	0.00	0.01	0.005	0					0.00
78.417	0.00	0.01	0.005	0					0.00
78.500	0.00	0.01	0.005	0					0.00
78.583	0.00	0.01	0.005	0					0.00
78.667	0.00	0.01	0.005	0					0.00
78.750	0.00	0.01	0.005	0					0.00
78.833	0.00	0.01	0.005	0					0.00
78.917	0.00	0.01	0.005	0					0.00
79.000	0.00	0.01	0.005	0					0.00
79.083	0.00	0.01	0.005	0					0.00
79.167	0.00	0.01	0.005	0					0.00
79.250	0.00	0.01	0.005	0					0.00
79.333	0.00	0.01	0.005	0					0.00
79.417	0.00	0.01	0.005	0					0.00
79.500	0.00	0.01	0.005	0					0.00
79.583	0.00	0.01	0.005	0					0.00
79.667	0.00	0.01	0.005	0					0.00
79.750	0.00	0.01	0.005	0					0.00
79.833	0.00	0.01	0.005	0					0.00
79.917	0.00	0.01	0.005	0					0.00
80.000	0.00	0.01	0.005	0					0.00
80.083	0.00	0.01	0.005	0					0.00
80.167	0.00	0.01	0.005	0					0.00
80.250	0.00	0.01	0.005	0					0.00
80.333	0.00	0.01	0.004	0					0.00
80.417	0.00	0.01	0.004	0					0.00
80.500	0.00	0.00	0.004	0					0.00
80.583	0.00	0.00	0.004	0					0.00
80.667	0.00	0.00	0.004	0					0.00
80.750	0.00	0.00	0.004	0					0.00
80.833	0.00	0.00	0.004	0					0.00
80.917	0.00	0.00	0.004	0					0.00
81.000	0.00	0.00	0.004	0					0.00
81.083	0.00	0.00	0.004	0					0.00
81.167	0.00	0.00	0.004	0					0.00
81.250	0.00	0.00	0.004	0					0.00
81.333	0.00	0.00	0.004	0					0.00
81.417	0.00	0.00	0.004	0					0.00
81.500	0.00	0.00	0.004	0					0.00
81.583	0.00	0.00	0.004	0					0.00
81.667	0.00	0.00	0.004	0					0.00
81.750	0.00	0.00	0.004	0					0.00
81.833	0.00	0.00	0.004	0					0.00
81.917	0.00	0.00	0.004	0					0.00
82.000	0.00	0.00	0.004	0					0.00
82.083	0.00	0.00	0.004	0					0.00
82.167	0.00	0.00	0.004	0					0.00
82.250	0.00	0.00	0.004	0					0.00
82.333	0.00	0.00	0.004	0					0.00
82.417	0.00	0.00	0.004	0					0.00
82.500	0.00	0.00	0.004	0					0.00
82.583	0.00	0.00	0.004	0					0.00
82.667	0.00	0.00	0.004	0					0.00
82.750	0.00	0.00	0.004	0					0.00
82.833	0.00	0.00	0.004	0					0.00
82.917	0.00	0.00	0.004	0					0.00
83.000	0.00	0.00	0.003	0					0.00
83.083	0.00	0.00	0.003	0					0.00
83.167	0.00	0.00	0.003	0					0.00
83.250	0.00	0.00	0.003	0					0.00
83.333	0.00	0.00	0.003	0					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.00	0.003	o					0.00
83.500	0.00	0.00	0.003	o					0.00
83.583	0.00	0.00	0.003	o					0.00
83.667	0.00	0.00	0.003	o					0.00
83.750	0.00	0.00	0.003	o					0.00
83.833	0.00	0.00	0.003	o					0.00
83.917	0.00	0.00	0.003	o					0.00
84.000	0.00	0.00	0.003	o					0.00
84.083	0.00	0.00	0.003	o					0.00
84.167	0.00	0.00	0.003	o					0.00
84.250	0.00	0.00	0.003	o					0.00
84.333	0.00	0.00	0.003	o					0.00
84.417	0.00	0.00	0.003	o					0.00
84.500	0.00	0.00	0.003	o					0.00
84.583	0.00	0.00	0.003	o					0.00
84.667	0.00	0.00	0.003	o					0.00
84.750	0.00	0.00	0.003	o					0.00
84.833	0.00	0.00	0.003	o					0.00
84.917	0.00	0.00	0.003	o					0.00
85.000	0.00	0.00	0.003	o					0.00
85.083	0.00	0.00	0.003	o					0.00
85.167	0.00	0.00	0.003	o					0.00
85.250	0.00	0.00	0.003	o					0.00
85.333	0.00	0.00	0.003	o					0.00
85.417	0.00	0.00	0.003	o					0.00
85.500	0.00	0.00	0.003	o					0.00
85.583	0.00	0.00	0.003	o					0.00
85.667	0.00	0.00	0.003	o					0.00
85.750	0.00	0.00	0.003	o					0.00
85.833	0.00	0.00	0.003	o					0.00
85.917	0.00	0.00	0.003	o					0.00
86.000	0.00	0.00	0.003	o					0.00
86.083	0.00	0.00	0.003	o					0.00
86.167	0.00	0.00	0.003	o					0.00
86.250	0.00	0.00	0.003	o					0.00
86.333	0.00	0.00	0.003	o					0.00
86.417	0.00	0.00	0.003	o					0.00
86.500	0.00	0.00	0.003	o					0.00
86.583	0.00	0.00	0.002	o					0.00
86.667	0.00	0.00	0.002	o					0.00
86.750	0.00	0.00	0.002	o					0.00
86.833	0.00	0.00	0.002	o					0.00
86.917	0.00	0.00	0.002	o					0.00
87.000	0.00	0.00	0.002	o					0.00
87.083	0.00	0.00	0.002	o					0.00
87.167	0.00	0.00	0.002	o					0.00
87.250	0.00	0.00	0.002	o					0.00
87.333	0.00	0.00	0.002	o					0.00
87.417	0.00	0.00	0.002	o					0.00
87.500	0.00	0.00	0.002	o					0.00
87.583	0.00	0.00	0.002	o					0.00
87.667	0.00	0.00	0.002	o					0.00
87.750	0.00	0.00	0.002	o					0.00
87.833	0.00	0.00	0.002	o					0.00
87.917	0.00	0.00	0.002	o					0.00
88.000	0.00	0.00	0.002	o					0.00
88.083	0.00	0.00	0.002	o					0.00
88.167	0.00	0.00	0.002	o					0.00
88.250	0.00	0.00	0.002	o					0.00
88.333	0.00	0.00	0.002	o					0.00
88.417	0.00	0.00	0.002	o					0.00
88.500	0.00	0.00	0.002	o					0.00
88.583	0.00	0.00	0.002	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.00	0.002	o					0.00
88.750	0.00	0.00	0.002	o					0.00
88.833	0.00	0.00	0.002	o					0.00
88.917	0.00	0.00	0.002	o					0.00
89.000	0.00	0.00	0.002	o					0.00
89.083	0.00	0.00	0.002	o					0.00
89.167	0.00	0.00	0.002	o					0.00
89.250	0.00	0.00	0.002	o					0.00
89.333	0.00	0.00	0.002	o					0.00
89.417	0.00	0.00	0.002	o					0.00
89.500	0.00	0.00	0.002	o					0.00
89.583	0.00	0.00	0.002	o					0.00
89.667	0.00	0.00	0.002	o					0.00
89.750	0.00	0.00	0.002	o					0.00
89.833	0.00	0.00	0.002	o					0.00
89.917	0.00	0.00	0.002	o					0.00
90.000	0.00	0.00	0.002	o					0.00
90.083	0.00	0.00	0.002	o					0.00
90.167	0.00	0.00	0.002	o					0.00
90.250	0.00	0.00	0.002	o					0.00
90.333	0.00	0.00	0.002	o					0.00
90.417	0.00	0.00	0.002	o					0.00
90.500	0.00	0.00	0.002	o					0.00
90.583	0.00	0.00	0.002	o					0.00
90.667	0.00	0.00	0.002	o					0.00
90.750	0.00	0.00	0.002	o					0.00
90.833	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 1090
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 2.375 (CFS)
      Total volume = 4.426 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 2-year 6-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx2prh62.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 78  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 44.972 (CFS)  
 Total volume = 6.172 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 78  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

-----  
 Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	Storage					Depth (Ft.)
				.0	11.2	22.49	33.73	44.97	
0.083	1.08	0.00	0.004	O					0.00
0.167	3.46	0.02	0.019	O I					0.01
0.250	4.49	0.05	0.046	O I					0.03
0.333	4.88	0.09	0.078	O I					0.05
0.417	5.09	0.13	0.112	O I					0.07
0.500	5.42	0.17	0.147	O I					0.09
0.583	5.95	0.21	0.185	O I					0.11
0.667	6.08	0.25	0.225	O I					0.13
0.750	6.13	0.30	0.265	O I					0.16
0.833	6.16	0.34	0.305	O I					0.18
0.917	6.18	0.39	0.345	O I					0.20
1.000	6.41	0.43	0.385	O I					0.23
1.083	6.84	0.48	0.428	O I					0.25
1.167	6.96	0.53	0.472	O I					0.28
1.250	7.02	0.58	0.516	O I					0.30
1.333	7.05	0.63	0.561	O I					0.33
1.417	7.07	0.68	0.605	O I					0.36
1.500	7.08	0.73	0.649	O I					0.38
1.583	7.08	0.78	0.692	O I					0.41
1.667	7.08	0.83	0.735	O I					0.43
1.750	7.08	0.88	0.778	O I					0.46
1.833	7.08	0.93	0.821	O I					0.48
1.917	7.08	0.97	0.863	O I					0.51
2.000	7.30	1.02	0.906	O I					0.53
2.083	7.51	1.07	0.949	O I					0.56
2.167	7.42	1.12	0.993	O I					0.59
2.250	7.78	1.17	1.038	O I					0.61
2.333	7.88	1.22	1.083	O I					0.64
2.417	7.92	1.27	1.129	O I					0.67
2.500	7.95	1.33	1.175	O I					0.69
2.583	7.95	1.38	1.220	O I					0.72
2.667	7.97	1.43	1.266	O I					0.75
2.750	8.18	1.48	1.311	O I					0.77
2.833	8.62	1.53	1.359	O I					0.80
2.917	8.74	1.59	1.408	O I					0.83
3.000	8.79	1.64	1.457	O I					0.86
3.083	8.82	1.70	1.506	O I					0.89
3.167	9.05	1.76	1.556	O I					0.92
3.250	9.50	1.81	1.607	O I					0.95
3.333	9.62	1.87	1.660	O I					0.98
3.417	9.89	1.91	1.715	O I					1.01
3.500	10.57	1.93	1.772	O I					1.04
3.583	11.36	1.94	1.834	O I					1.07
3.667	11.98	1.95	1.901	O I					1.10
3.750	12.40	1.97	1.971	O I					1.13
3.833	12.93	1.98	2.045	O I					1.17
3.917	13.33	2.00	2.122	O I					1.20
4.000	13.85	2.01	2.202	O I					1.24
4.083	14.23	2.03	2.284	O I					1.28
4.167	14.95	2.05	2.371	O I					1.32
4.250	15.76	2.07	2.462	O I					1.36
4.333	16.61	2.09	2.560	O I					1.41
4.417	17.47	2.11	2.662	O I					1.46
4.500	18.13	2.13	2.770	O I					1.51
4.583	18.58	2.15	2.882	O I					1.56

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	19.35	2.18	2.998	IO		I				1.62
4.750	20.18	2.20	3.119	IO		I				1.67
4.833	20.81	2.23	3.245	IO		I				1.73
4.917	21.25	2.25	3.374	IO		I				1.80
5.000	22.00	2.28	3.508	IO		I				1.86
5.083	23.70	2.31	3.649	IO		I				1.93
5.167	27.15	2.34	3.808	IO			I			2.00
5.250	30.65	2.37	3.991	IO			I			2.07
5.333	33.57	2.39	4.196	IO				I		2.14
5.417	37.54	2.42	4.424	IO					I	2.23
5.500	44.97	2.46	4.691	IO					I	2.32
5.583	42.71	2.50	4.976	IO					I	2.43
5.667	23.16	2.53	5.186	IO		I				2.51
5.750	13.83	2.54	5.296	IO		I				2.55
5.833	9.26	2.55	5.358	IO		I				2.57
5.917	6.47	2.56	5.394	IO	I					2.58
6.000	4.19	2.56	5.413	IO	I					2.59
6.083	2.11	2.56	5.417	IO						2.59
6.167	0.79	2.56	5.410	IO						2.59
6.250	0.37	2.56	5.396	IO						2.58
6.333	0.19	2.55	5.381	IO						2.58
6.417	0.08	2.55	5.364	IO						2.57
6.500	0.03	2.55	5.347	IO						2.56
6.583	0.00	2.55	5.329	IO						2.56
6.667	0.00	2.54	5.312	IO						2.55
6.750	0.00	2.54	5.294	IO						2.55
6.833	0.00	2.54	5.277	IO						2.54
6.917	0.00	2.54	5.259	IO						2.53
7.000	0.00	2.53	5.242	IO						2.53
7.083	0.00	2.53	5.224	IO						2.52
7.167	0.00	2.53	5.207	IO						2.51
7.250	0.00	2.53	5.189	IO						2.51
7.333	0.00	2.53	5.172	IO						2.50
7.417	0.00	2.52	5.155	IO						2.49
7.500	0.00	2.52	5.137	IO						2.49
7.583	0.00	2.52	5.120	IO						2.48
7.667	0.00	2.52	5.103	IO						2.48
7.750	0.00	2.51	5.085	IO						2.47
7.833	0.00	2.51	5.068	IO						2.46
7.917	0.00	2.51	5.051	IO						2.46
8.000	0.00	2.51	5.033	IO						2.45
8.083	0.00	2.50	5.016	IO						2.44
8.167	0.00	2.50	4.999	IO						2.44
8.250	0.00	2.50	4.982	IO						2.43
8.333	0.00	2.50	4.965	IO						2.42
8.417	0.00	2.49	4.947	IO						2.42
8.500	0.00	2.49	4.930	IO						2.41
8.583	0.00	2.49	4.913	IO						2.41
8.667	0.00	2.49	4.896	IO						2.40
8.750	0.00	2.49	4.879	IO						2.39
8.833	0.00	2.48	4.862	IO						2.39
8.917	0.00	2.48	4.845	IO						2.38
9.000	0.00	2.48	4.827	IO						2.37
9.083	0.00	2.48	4.810	IO						2.37
9.167	0.00	2.47	4.793	IO						2.36
9.250	0.00	2.47	4.776	IO						2.36
9.333	0.00	2.47	4.759	IO						2.35
9.417	0.00	2.47	4.742	IO						2.34
9.500	0.00	2.46	4.725	IO						2.34
9.583	0.00	2.46	4.708	IO						2.33
9.667	0.00	2.46	4.691	IO						2.32
9.750	0.00	2.46	4.674	IO						2.32
9.833	0.00	2.46	4.658	IO						2.31

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.45	4.641	IO					2.31
10.000	0.00	2.45	4.624	IO					2.30
10.083	0.00	2.45	4.607	IO					2.29
10.167	0.00	2.45	4.590	IO					2.29
10.250	0.00	2.44	4.573	IO					2.28
10.333	0.00	2.44	4.556	IO					2.28
10.417	0.00	2.44	4.540	IO					2.27
10.500	0.00	2.44	4.523	IO					2.26
10.583	0.00	2.43	4.506	IO					2.26
10.667	0.00	2.43	4.489	IO					2.25
10.750	0.00	2.43	4.472	IO					2.24
10.833	0.00	2.43	4.456	IO					2.24
10.917	0.00	2.43	4.439	IO					2.23
11.000	0.00	2.42	4.422	IO					2.23
11.083	0.00	2.42	4.406	IO					2.22
11.167	0.00	2.42	4.389	IO					2.21
11.250	0.00	2.42	4.372	IO					2.21
11.333	0.00	2.41	4.356	IO					2.20
11.417	0.00	2.41	4.339	IO					2.20
11.500	0.00	2.41	4.322	IO					2.19
11.583	0.00	2.41	4.306	IO					2.18
11.667	0.00	2.41	4.289	IO					2.18
11.750	0.00	2.40	4.273	IO					2.17
11.833	0.00	2.40	4.256	IO					2.17
11.917	0.00	2.40	4.240	IO					2.16
12.000	0.00	2.40	4.223	IO					2.15
12.083	0.00	2.39	4.207	IO					2.15
12.167	0.00	2.39	4.190	IO					2.14
12.250	0.00	2.39	4.174	IO					2.13
12.333	0.00	2.39	4.157	IO					2.13
12.417	0.00	2.39	4.141	IO					2.12
12.500	0.00	2.38	4.124	IO					2.12
12.583	0.00	2.38	4.108	IO					2.11
12.667	0.00	2.38	4.092	IO					2.10
12.750	0.00	2.38	4.075	IO					2.10
12.833	0.00	2.37	4.059	IO					2.09
12.917	0.00	2.37	4.043	IO					2.09
13.000	0.00	2.37	4.026	IO					2.08
13.083	0.00	2.37	4.010	IO					2.07
13.167	0.00	2.37	3.994	IO					2.07
13.250	0.00	2.36	3.977	IO					2.06
13.333	0.00	2.36	3.961	IO					2.06
13.417	0.00	2.36	3.945	IO					2.05
13.500	0.00	2.36	3.929	IO					2.04
13.583	0.00	2.35	3.912	IO					2.04
13.667	0.00	2.35	3.896	IO					2.03
13.750	0.00	2.35	3.880	IO					2.03
13.833	0.00	2.35	3.864	IO					2.02
13.917	0.00	2.35	3.848	IO					2.02
14.000	0.00	2.34	3.831	IO					2.01
14.083	0.00	2.34	3.815	IO					2.00
14.167	0.00	2.34	3.799	IO					2.00
14.250	0.00	2.34	3.783	IO					1.99
14.333	0.00	2.33	3.767	IO					1.98
14.417	0.00	2.33	3.751	IO					1.97
14.500	0.00	2.33	3.735	IO					1.97
14.583	0.00	2.32	3.719	IO					1.96
14.667	0.00	2.32	3.703	IO					1.95
14.750	0.00	2.32	3.687	IO					1.94
14.833	0.00	2.31	3.671	IO					1.94
14.917	0.00	2.31	3.655	IO					1.93
15.000	0.00	2.31	3.639	IO					1.92
15.083	0.00	2.30	3.623	IO					1.91

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.167	0.00	2.30	3.608	IO					1.91
15.250	0.00	2.30	3.592	IO					1.90
15.333	0.00	2.29	3.576	IO					1.89
15.417	0.00	2.29	3.560	IO					1.88
15.500	0.00	2.29	3.544	IO					1.88
15.583	0.00	2.28	3.529	IO					1.87
15.667	0.00	2.28	3.513	IO					1.86
15.750	0.00	2.28	3.497	IO					1.85
15.833	0.00	2.27	3.482	IO					1.85
15.917	0.00	2.27	3.466	IO					1.84
16.000	0.00	2.27	3.450	IO					1.83
16.083	0.00	2.26	3.435	IO					1.82
16.167	0.00	2.26	3.419	IO					1.82
16.250	0.00	2.26	3.404	IO					1.81
16.333	0.00	2.25	3.388	IO					1.80
16.417	0.00	2.25	3.372	IO					1.79
16.500	0.00	2.25	3.357	IO					1.79
16.583	0.00	2.25	3.341	IO					1.78
16.667	0.00	2.24	3.326	IO					1.77
16.750	0.00	2.24	3.311	IO					1.77
16.833	0.00	2.24	3.295	IO					1.76
16.917	0.00	2.23	3.280	IO					1.75
17.000	0.00	2.23	3.264	IO					1.74
17.083	0.00	2.23	3.249	IO					1.74
17.167	0.00	2.22	3.234	IO					1.73
17.250	0.00	2.22	3.218	IO					1.72
17.333	0.00	2.22	3.203	IO					1.71
17.417	0.00	2.21	3.188	IO					1.71
17.500	0.00	2.21	3.173	IO					1.70
17.583	0.00	2.21	3.157	IO					1.69
17.667	0.00	2.20	3.142	IO					1.69
17.750	0.00	2.20	3.127	IO					1.68
17.833	0.00	2.20	3.112	IO					1.67
17.917	0.00	2.20	3.097	IO					1.66
18.000	0.00	2.19	3.082	IO					1.66
18.083	0.00	2.19	3.067	IO					1.65
18.167	0.00	2.19	3.052	IO					1.64
18.250	0.00	2.18	3.036	IO					1.64
18.333	0.00	2.18	3.021	IO					1.63
18.417	0.00	2.18	3.006	IO					1.62
18.500	0.00	2.17	2.991	IO					1.61
18.583	0.00	2.17	2.976	IO					1.61
18.667	0.00	2.17	2.962	IO					1.60
18.750	0.00	2.17	2.947	IO					1.59
18.833	0.00	2.16	2.932	IO					1.59
18.917	0.00	2.16	2.917	IO					1.58
19.000	0.00	2.16	2.902	IO					1.57
19.083	0.00	2.15	2.887	IO					1.57
19.167	0.00	2.15	2.872	IO					1.56
19.250	0.00	2.15	2.858	IO					1.55
19.333	0.00	2.14	2.843	IO					1.54
19.417	0.00	2.14	2.828	IO					1.54
19.500	0.00	2.14	2.813	IO					1.53
19.583	0.00	2.13	2.799	IO					1.52
19.667	0.00	2.13	2.784	IO					1.52
19.750	0.00	2.13	2.769	IO					1.51
19.833	0.00	2.13	2.755	IO					1.50
19.917	0.00	2.12	2.740	IO					1.50
20.000	0.00	2.12	2.725	IO					1.49
20.083	0.00	2.12	2.711	IO					1.48
20.167	0.00	2.11	2.696	IO					1.47
20.250	0.00	2.11	2.682	IO					1.47
20.333	0.00	2.11	2.667	IO					1.46



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.11	2.653	IO					1.45
20.500	0.00	2.10	2.638	IO					1.45
20.583	0.00	2.10	2.624	IO					1.44
20.667	0.00	2.10	2.609	IO					1.43
20.750	0.00	2.09	2.595	IO					1.43
20.833	0.00	2.09	2.580	IO					1.42
20.917	0.00	2.09	2.566	IO					1.41
21.000	0.00	2.08	2.552	IO					1.41
21.083	0.00	2.08	2.537	IO					1.40
21.167	0.00	2.08	2.523	IO					1.39
21.250	0.00	2.08	2.509	IO					1.39
21.333	0.00	2.07	2.494	IO					1.38
21.417	0.00	2.07	2.480	IO					1.37
21.500	0.00	2.07	2.466	IO					1.37
21.583	0.00	2.06	2.452	IO					1.36
21.667	0.00	2.06	2.437	IO					1.35
21.750	0.00	2.06	2.423	IO					1.35
21.833	0.00	2.06	2.409	IO					1.34
21.917	0.00	2.05	2.395	IO					1.33
22.000	0.00	2.05	2.381	IO					1.33
22.083	0.00	2.05	2.367	IO					1.32
22.167	0.00	2.04	2.353	IO					1.31
22.250	0.00	2.04	2.338	IO					1.31
22.333	0.00	2.04	2.324	IO					1.30
22.417	0.00	2.04	2.310	IO					1.29
22.500	0.00	2.03	2.296	IO					1.29
22.583	0.00	2.03	2.282	IO					1.28
22.667	0.00	2.03	2.268	IO					1.27
22.750	0.00	2.02	2.254	IO					1.27
22.833	0.00	2.02	2.241	IO					1.26
22.917	0.00	2.02	2.227	IO					1.25
23.000	0.00	2.02	2.213	IO					1.25
23.083	0.00	2.01	2.199	IO					1.24
23.167	0.00	2.01	2.185	IO					1.23
23.250	0.00	2.01	2.171	IO					1.23
23.333	0.00	2.00	2.157	IO					1.22
23.417	0.00	2.00	2.144	IO					1.21
23.500	0.00	2.00	2.130	IO					1.21
23.583	0.00	2.00	2.116	IO					1.20
23.667	0.00	1.99	2.102	IO					1.19
23.750	0.00	1.99	2.089	IO					1.19
23.833	0.00	1.99	2.075	IO					1.18
23.917	0.00	1.98	2.061	IO					1.17
24.000	0.00	1.98	2.048	IO					1.17
24.083	0.00	1.98	2.034	IO					1.16
24.167	0.00	1.98	2.020	IO					1.15
24.250	0.00	1.97	2.007	IO					1.15
24.333	0.00	1.97	1.993	IO					1.14
24.417	0.00	1.97	1.979	IO					1.14
24.500	0.00	1.97	1.966	IO					1.13
24.583	0.00	1.96	1.952	IO					1.12
24.667	0.00	1.96	1.939	IO					1.12
24.750	0.00	1.96	1.925	IO					1.11
24.833	0.00	1.95	1.912	IO					1.10
24.917	0.00	1.95	1.898	IO					1.10
25.000	0.00	1.95	1.885	IO					1.09
25.083	0.00	1.95	1.872	IO					1.08
25.167	0.00	1.94	1.858	IO					1.08
25.250	0.00	1.94	1.845	IO					1.07
25.333	0.00	1.94	1.832	IO					1.07
25.417	0.00	1.94	1.818	IO					1.06
25.500	0.00	1.93	1.805	IO					1.05
25.583	0.00	1.93	1.792	IO					1.05

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	1.93	1.778	IO					1.04
25.750	0.00	1.92	1.765	IO					1.03
25.833	0.00	1.92	1.752	IO					1.03
25.917	0.00	1.92	1.739	IO					1.02
26.000	0.00	1.92	1.725	IO					1.02
26.083	0.00	1.91	1.712	IO					1.01
26.167	0.00	1.91	1.699	IO					1.00
26.250	0.00	1.90	1.686	IO					1.00
26.333	0.00	1.89	1.673	IO					0.99
26.417	0.00	1.87	1.660	IO					0.98
26.500	0.00	1.86	1.647	IO					0.97
26.583	0.00	1.84	1.634	IO					0.97
26.667	0.00	1.83	1.622	IO					0.96
26.750	0.00	1.82	1.609	IO					0.95
26.833	0.00	1.80	1.597	IO					0.94
26.917	0.00	1.79	1.584	IO					0.94
27.000	0.00	1.77	1.572	IO					0.93
27.083	0.00	1.76	1.560	IO					0.92
27.167	0.00	1.75	1.548	IO					0.91
27.250	0.00	1.73	1.536	IO					0.91
27.333	0.00	1.72	1.524	IO					0.90
27.417	0.00	1.71	1.512	IO					0.89
27.500	0.00	1.69	1.500	IO					0.89
27.583	0.00	1.68	1.489	IO					0.88
27.667	0.00	1.67	1.477	IO					0.87
27.750	0.00	1.65	1.466	IO					0.87
27.833	0.00	1.64	1.454	IO					0.86
27.917	0.00	1.63	1.443	IO					0.85
28.000	0.00	1.62	1.432	IO					0.85
28.083	0.00	1.60	1.421	IO					0.84
28.167	0.00	1.59	1.410	IO					0.83
28.250	0.00	1.58	1.399	IO					0.83
28.333	0.00	1.57	1.388	IO					0.82
28.417	0.00	1.55	1.377	IO					0.81
28.500	0.00	1.54	1.367	IO					0.81
28.583	0.00	1.53	1.356	IO					0.80
28.667	0.00	1.52	1.346	IO					0.79
28.750	0.00	1.51	1.335	IO					0.79
28.833	0.00	1.49	1.325	IO					0.78
28.917	0.00	1.48	1.315	IO					0.78
29.000	0.00	1.47	1.305	IO					0.77
29.083	0.00	1.46	1.294	IO					0.76
29.167	0.00	1.45	1.284	IO					0.76
29.250	0.00	1.44	1.274	IO					0.75
29.333	0.00	1.43	1.265	IO					0.75
29.417	0.00	1.42	1.255	IO					0.74
29.500	0.00	1.40	1.245	O					0.74
29.583	0.00	1.39	1.235	O					0.73
29.667	0.00	1.38	1.226	O					0.72
29.750	0.00	1.37	1.216	O					0.72
29.833	0.00	1.36	1.207	O					0.71
29.917	0.00	1.35	1.198	O					0.71
30.000	0.00	1.34	1.188	O					0.70
30.083	0.00	1.33	1.179	O					0.70
30.167	0.00	1.32	1.170	O					0.69
30.250	0.00	1.31	1.161	O					0.69
30.333	0.00	1.30	1.152	O					0.68
30.417	0.00	1.29	1.143	O					0.68
30.500	0.00	1.28	1.134	O					0.67
30.583	0.00	1.27	1.125	O					0.66
30.667	0.00	1.26	1.117	O					0.66
30.750	0.00	1.25	1.108	O					0.65
30.833	0.00	1.24	1.100	O					0.65

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	1.23	1.091	0					0.64
31.000	0.00	1.22	1.083	0					0.64
31.083	0.00	1.21	1.074	0					0.63
31.167	0.00	1.20	1.066	0					0.63
31.250	0.00	1.19	1.058	0					0.62
31.333	0.00	1.18	1.049	0					0.62
31.417	0.00	1.17	1.041	0					0.62
31.500	0.00	1.17	1.033	0					0.61
31.583	0.00	1.16	1.025	0					0.61
31.667	0.00	1.15	1.017	0					0.60
31.750	0.00	1.14	1.009	0					0.60
31.833	0.00	1.13	1.002	0					0.59
31.917	0.00	1.12	0.994	0					0.59
32.000	0.00	1.11	0.986	0					0.58
32.083	0.00	1.10	0.979	0					0.58
32.167	0.00	1.10	0.971	0					0.57
32.250	0.00	1.09	0.964	0					0.57
32.333	0.00	1.08	0.956	0					0.56
32.417	0.00	1.07	0.949	0					0.56
32.500	0.00	1.06	0.941	0					0.56
32.583	0.00	1.05	0.934	0					0.55
32.667	0.00	1.05	0.927	0					0.55
32.750	0.00	1.04	0.920	0					0.54
32.833	0.00	1.03	0.913	0					0.54
32.917	0.00	1.02	0.905	0					0.53
33.000	0.00	1.01	0.898	0					0.53
33.083	0.00	1.01	0.891	0					0.53
33.167	0.00	1.00	0.885	0					0.52
33.250	0.00	0.99	0.878	0					0.52
33.333	0.00	0.98	0.871	0					0.51
33.417	0.00	0.97	0.864	0					0.51
33.500	0.00	0.97	0.858	0					0.51
33.583	0.00	0.96	0.851	0					0.50
33.667	0.00	0.95	0.844	0					0.50
33.750	0.00	0.95	0.838	0					0.49
33.833	0.00	0.94	0.831	0					0.49
33.917	0.00	0.93	0.825	0					0.49
34.000	0.00	0.92	0.818	0					0.48
34.083	0.00	0.92	0.812	0					0.48
34.167	0.00	0.91	0.806	0					0.48
34.250	0.00	0.90	0.800	0					0.47
34.333	0.00	0.90	0.793	0					0.47
34.417	0.00	0.89	0.787	0					0.47
34.500	0.00	0.88	0.781	0					0.46
34.583	0.00	0.87	0.775	0					0.46
34.667	0.00	0.87	0.769	0					0.45
34.750	0.00	0.86	0.763	0					0.45
34.833	0.00	0.85	0.757	0					0.45
34.917	0.00	0.85	0.751	0					0.44
35.000	0.00	0.84	0.746	0					0.44
35.083	0.00	0.83	0.740	0					0.44
35.167	0.00	0.83	0.734	0					0.43
35.250	0.00	0.82	0.728	0					0.43
35.333	0.00	0.82	0.723	0					0.43
35.417	0.00	0.81	0.717	0					0.42
35.500	0.00	0.80	0.712	0					0.42
35.583	0.00	0.80	0.706	0					0.42
35.667	0.00	0.79	0.701	0					0.41
35.750	0.00	0.78	0.695	0					0.41
35.833	0.00	0.78	0.690	0					0.41
35.917	0.00	0.77	0.685	0					0.40
36.000	0.00	0.77	0.679	0					0.40
36.083	0.00	0.76	0.674	0					0.40

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	0.75	0.669	0					0.40
36.250	0.00	0.75	0.664	0					0.39
36.333	0.00	0.74	0.658	0					0.39
36.417	0.00	0.74	0.653	0					0.39
36.500	0.00	0.73	0.648	0					0.38
36.583	0.00	0.73	0.643	0					0.38
36.667	0.00	0.72	0.638	0					0.38
36.750	0.00	0.71	0.633	0					0.37
36.833	0.00	0.71	0.628	0					0.37
36.917	0.00	0.70	0.624	0					0.37
37.000	0.00	0.70	0.619	0					0.37
37.083	0.00	0.69	0.614	0					0.36
37.167	0.00	0.69	0.609	0					0.36
37.250	0.00	0.68	0.604	0					0.36
37.333	0.00	0.68	0.600	0					0.35
37.417	0.00	0.67	0.595	0					0.35
37.500	0.00	0.67	0.591	0					0.35
37.583	0.00	0.66	0.586	0					0.35
37.667	0.00	0.66	0.581	0					0.34
37.750	0.00	0.65	0.577	0					0.34
37.833	0.00	0.65	0.572	0					0.34
37.917	0.00	0.64	0.568	0					0.34
38.000	0.00	0.64	0.564	0					0.33
38.083	0.00	0.63	0.559	0					0.33
38.167	0.00	0.63	0.555	0					0.33
38.250	0.00	0.62	0.551	0					0.33
38.333	0.00	0.62	0.546	0					0.32
38.417	0.00	0.61	0.542	0					0.32
38.500	0.00	0.61	0.538	0					0.32
38.583	0.00	0.60	0.534	0					0.32
38.667	0.00	0.60	0.530	0					0.31
38.750	0.00	0.59	0.526	0					0.31
38.833	0.00	0.59	0.522	0					0.31
38.917	0.00	0.58	0.517	0					0.31
39.000	0.00	0.58	0.513	0					0.30
39.083	0.00	0.57	0.510	0					0.30
39.167	0.00	0.57	0.506	0					0.30
39.250	0.00	0.57	0.502	0					0.30
39.333	0.00	0.56	0.498	0					0.29
39.417	0.00	0.56	0.494	0					0.29
39.500	0.00	0.55	0.490	0					0.29
39.583	0.00	0.55	0.486	0					0.29
39.667	0.00	0.54	0.483	0					0.29
39.750	0.00	0.54	0.479	0					0.28
39.833	0.00	0.54	0.475	0					0.28
39.917	0.00	0.53	0.471	0					0.28
40.000	0.00	0.53	0.468	0					0.28
40.083	0.00	0.52	0.464	0					0.27
40.167	0.00	0.52	0.461	0					0.27
40.250	0.00	0.52	0.457	0					0.27
40.333	0.00	0.51	0.453	0					0.27
40.417	0.00	0.51	0.450	0					0.27
40.500	0.00	0.50	0.446	0					0.26
40.583	0.00	0.50	0.443	0					0.26
40.667	0.00	0.50	0.440	0					0.26
40.750	0.00	0.49	0.436	0					0.26
40.833	0.00	0.49	0.433	0					0.26
40.917	0.00	0.48	0.429	0					0.25
41.000	0.00	0.48	0.426	0					0.25
41.083	0.00	0.48	0.423	0					0.25
41.167	0.00	0.47	0.420	0					0.25
41.250	0.00	0.47	0.416	0					0.25
41.333	0.00	0.47	0.413	0					0.24

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	0.46	0.410	0					0.24
41.500	0.00	0.46	0.407	0					0.24
41.583	0.00	0.46	0.404	0					0.24
41.667	0.00	0.45	0.400	0					0.24
41.750	0.00	0.45	0.397	0					0.23
41.833	0.00	0.44	0.394	0					0.23
41.917	0.00	0.44	0.391	0					0.23
42.000	0.00	0.44	0.388	0					0.23
42.083	0.00	0.43	0.385	0					0.23
42.167	0.00	0.43	0.382	0					0.23
42.250	0.00	0.43	0.379	0					0.22
42.333	0.00	0.42	0.376	0					0.22
42.417	0.00	0.42	0.373	0					0.22
42.500	0.00	0.42	0.371	0					0.22
42.583	0.00	0.41	0.368	0					0.22
42.667	0.00	0.41	0.365	0					0.22
42.750	0.00	0.41	0.362	0					0.21
42.833	0.00	0.41	0.359	0					0.21
42.917	0.00	0.40	0.356	0					0.21
43.000	0.00	0.40	0.354	0					0.21
43.083	0.00	0.40	0.351	0					0.21
43.167	0.00	0.39	0.348	0					0.21
43.250	0.00	0.39	0.345	0					0.20
43.333	0.00	0.39	0.343	0					0.20
43.417	0.00	0.38	0.340	0					0.20
43.500	0.00	0.38	0.338	0					0.20
43.583	0.00	0.38	0.335	0					0.20
43.667	0.00	0.37	0.332	0					0.20
43.750	0.00	0.37	0.330	0					0.19
43.833	0.00	0.37	0.327	0					0.19
43.917	0.00	0.37	0.325	0					0.19
44.000	0.00	0.36	0.322	0					0.19
44.083	0.00	0.36	0.320	0					0.19
44.167	0.00	0.36	0.317	0					0.19
44.250	0.00	0.36	0.315	0					0.19
44.333	0.00	0.35	0.312	0					0.18
44.417	0.00	0.35	0.310	0					0.18
44.500	0.00	0.35	0.307	0					0.18
44.583	0.00	0.34	0.305	0					0.18
44.667	0.00	0.34	0.303	0					0.18
44.750	0.00	0.34	0.300	0					0.18
44.833	0.00	0.34	0.298	0					0.18
44.917	0.00	0.33	0.296	0					0.17
45.000	0.00	0.33	0.293	0					0.17
45.083	0.00	0.33	0.291	0					0.17
45.167	0.00	0.33	0.289	0					0.17
45.250	0.00	0.32	0.287	0					0.17
45.333	0.00	0.32	0.284	0					0.17
45.417	0.00	0.32	0.282	0					0.17
45.500	0.00	0.32	0.280	0					0.17
45.583	0.00	0.31	0.278	0					0.16
45.667	0.00	0.31	0.276	0					0.16
45.750	0.00	0.31	0.274	0					0.16
45.833	0.00	0.31	0.272	0					0.16
45.917	0.00	0.30	0.269	0					0.16
46.000	0.00	0.30	0.267	0					0.16
46.083	0.00	0.30	0.265	0					0.16
46.167	0.00	0.30	0.263	0					0.16
46.250	0.00	0.29	0.261	0					0.15
46.333	0.00	0.29	0.259	0					0.15
46.417	0.00	0.29	0.257	0					0.15
46.500	0.00	0.29	0.255	0					0.15
46.583	0.00	0.29	0.253	0					0.15

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.28	0.251	0					0.15
46.750	0.00	0.28	0.249	0					0.15
46.833	0.00	0.28	0.247	0					0.15
46.917	0.00	0.28	0.245	0					0.14
47.000	0.00	0.27	0.244	0					0.14
47.083	0.00	0.27	0.242	0					0.14
47.167	0.00	0.27	0.240	0					0.14
47.250	0.00	0.27	0.238	0					0.14
47.333	0.00	0.27	0.236	0					0.14
47.417	0.00	0.26	0.234	0					0.14
47.500	0.00	0.26	0.232	0					0.14
47.583	0.00	0.26	0.231	0					0.14
47.667	0.00	0.26	0.229	0					0.14
47.750	0.00	0.26	0.227	0					0.13
47.833	0.00	0.25	0.225	0					0.13
47.917	0.00	0.25	0.224	0					0.13
48.000	0.00	0.25	0.222	0					0.13
48.083	0.00	0.25	0.220	0					0.13
48.167	0.00	0.25	0.218	0					0.13
48.250	0.00	0.24	0.217	0					0.13
48.333	0.00	0.24	0.215	0					0.13
48.417	0.00	0.24	0.213	0					0.13
48.500	0.00	0.24	0.212	0					0.13
48.583	0.00	0.24	0.210	0					0.12
48.667	0.00	0.24	0.208	0					0.12
48.750	0.00	0.23	0.207	0					0.12
48.833	0.00	0.23	0.205	0					0.12
48.917	0.00	0.23	0.204	0					0.12
49.000	0.00	0.23	0.202	0					0.12
49.083	0.00	0.23	0.201	0					0.12
49.167	0.00	0.22	0.199	0					0.12
49.250	0.00	0.22	0.197	0					0.12
49.333	0.00	0.22	0.196	0					0.12
49.417	0.00	0.22	0.194	0					0.11
49.500	0.00	0.22	0.193	0					0.11
49.583	0.00	0.22	0.191	0					0.11
49.667	0.00	0.21	0.190	0					0.11
49.750	0.00	0.21	0.188	0					0.11
49.833	0.00	0.21	0.187	0					0.11
49.917	0.00	0.21	0.186	0					0.11
50.000	0.00	0.21	0.184	0					0.11
50.083	0.00	0.21	0.183	0					0.11
50.167	0.00	0.20	0.181	0					0.11
50.250	0.00	0.20	0.180	0					0.11
50.333	0.00	0.20	0.178	0					0.11
50.417	0.00	0.20	0.177	0					0.10
50.500	0.00	0.20	0.176	0					0.10
50.583	0.00	0.20	0.174	0					0.10
50.667	0.00	0.20	0.173	0					0.10
50.750	0.00	0.19	0.172	0					0.10
50.833	0.00	0.19	0.170	0					0.10
50.917	0.00	0.19	0.169	0					0.10
51.000	0.00	0.19	0.168	0					0.10
51.083	0.00	0.19	0.166	0					0.10
51.167	0.00	0.19	0.165	0					0.10
51.250	0.00	0.18	0.164	0					0.10
51.333	0.00	0.18	0.163	0					0.10
51.417	0.00	0.18	0.161	0					0.10
51.500	0.00	0.18	0.160	0					0.09
51.583	0.00	0.18	0.159	0					0.09
51.667	0.00	0.18	0.158	0					0.09
51.750	0.00	0.18	0.156	0					0.09
51.833	0.00	0.18	0.155	0					0.09

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.17	0.154	0					0.09
52.000	0.00	0.17	0.153	0					0.09
52.083	0.00	0.17	0.152	0					0.09
52.167	0.00	0.17	0.150	0					0.09
52.250	0.00	0.17	0.149	0					0.09
52.333	0.00	0.17	0.148	0					0.09
52.417	0.00	0.17	0.147	0					0.09
52.500	0.00	0.16	0.146	0					0.09
52.583	0.00	0.16	0.145	0					0.09
52.667	0.00	0.16	0.144	0					0.08
52.750	0.00	0.16	0.142	0					0.08
52.833	0.00	0.16	0.141	0					0.08
52.917	0.00	0.16	0.140	0					0.08
53.000	0.00	0.16	0.139	0					0.08
53.083	0.00	0.16	0.138	0					0.08
53.167	0.00	0.15	0.137	0					0.08
53.250	0.00	0.15	0.136	0					0.08
53.333	0.00	0.15	0.135	0					0.08
53.417	0.00	0.15	0.134	0					0.08
53.500	0.00	0.15	0.133	0					0.08
53.583	0.00	0.15	0.132	0					0.08
53.667	0.00	0.15	0.131	0					0.08
53.750	0.00	0.15	0.130	0					0.08
53.833	0.00	0.15	0.129	0					0.08
53.917	0.00	0.14	0.128	0					0.08
54.000	0.00	0.14	0.127	0					0.07
54.083	0.00	0.14	0.126	0					0.07
54.167	0.00	0.14	0.125	0					0.07
54.250	0.00	0.14	0.124	0					0.07
54.333	0.00	0.14	0.123	0					0.07
54.417	0.00	0.14	0.122	0					0.07
54.500	0.00	0.14	0.121	0					0.07
54.583	0.00	0.14	0.120	0					0.07
54.667	0.00	0.13	0.119	0					0.07
54.750	0.00	0.13	0.118	0					0.07
54.833	0.00	0.13	0.117	0					0.07
54.917	0.00	0.13	0.116	0					0.07
55.000	0.00	0.13	0.116	0					0.07
55.083	0.00	0.13	0.115	0					0.07
55.167	0.00	0.13	0.114	0					0.07
55.250	0.00	0.13	0.113	0					0.07
55.333	0.00	0.13	0.112	0					0.07
55.417	0.00	0.13	0.111	0					0.07
55.500	0.00	0.12	0.110	0					0.07
55.583	0.00	0.12	0.109	0					0.06
55.667	0.00	0.12	0.109	0					0.06
55.750	0.00	0.12	0.108	0					0.06
55.833	0.00	0.12	0.107	0					0.06
55.917	0.00	0.12	0.106	0					0.06
56.000	0.00	0.12	0.105	0					0.06
56.083	0.00	0.12	0.104	0					0.06
56.167	0.00	0.12	0.104	0					0.06
56.250	0.00	0.12	0.103	0					0.06
56.333	0.00	0.12	0.102	0					0.06
56.417	0.00	0.11	0.101	0					0.06
56.500	0.00	0.11	0.100	0					0.06
56.583	0.00	0.11	0.100	0					0.06
56.667	0.00	0.11	0.099	0					0.06
56.750	0.00	0.11	0.098	0					0.06
56.833	0.00	0.11	0.097	0					0.06
56.917	0.00	0.11	0.097	0					0.06
57.000	0.00	0.11	0.096	0					0.06
57.083	0.00	0.11	0.095	0					0.06

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.11	0.094	0					0.06
57.250	0.00	0.11	0.094	0					0.06
57.333	0.00	0.10	0.093	0					0.05
57.417	0.00	0.10	0.092	0					0.05
57.500	0.00	0.10	0.091	0					0.05
57.583	0.00	0.10	0.091	0					0.05
57.667	0.00	0.10	0.090	0					0.05
57.750	0.00	0.10	0.089	0					0.05
57.833	0.00	0.10	0.089	0					0.05
57.917	0.00	0.10	0.088	0					0.05
58.000	0.00	0.10	0.087	0					0.05
58.083	0.00	0.10	0.087	0					0.05
58.167	0.00	0.10	0.086	0					0.05
58.250	0.00	0.10	0.085	0					0.05
58.333	0.00	0.10	0.085	0					0.05
58.417	0.00	0.09	0.084	0					0.05
58.500	0.00	0.09	0.083	0					0.05
58.583	0.00	0.09	0.083	0					0.05
58.667	0.00	0.09	0.082	0					0.05
58.750	0.00	0.09	0.081	0					0.05
58.833	0.00	0.09	0.081	0					0.05
58.917	0.00	0.09	0.080	0					0.05
59.000	0.00	0.09	0.080	0					0.05
59.083	0.00	0.09	0.079	0					0.05
59.167	0.00	0.09	0.078	0					0.05
59.250	0.00	0.09	0.078	0					0.05
59.333	0.00	0.09	0.077	0					0.05
59.417	0.00	0.09	0.077	0					0.05
59.500	0.00	0.09	0.076	0					0.04
59.583	0.00	0.09	0.075	0					0.04
59.667	0.00	0.08	0.075	0					0.04
59.750	0.00	0.08	0.074	0					0.04
59.833	0.00	0.08	0.074	0					0.04
59.917	0.00	0.08	0.073	0					0.04
60.000	0.00	0.08	0.072	0					0.04
60.083	0.00	0.08	0.072	0					0.04
60.167	0.00	0.08	0.071	0					0.04
60.250	0.00	0.08	0.071	0					0.04
60.333	0.00	0.08	0.070	0					0.04
60.417	0.00	0.08	0.070	0					0.04
60.500	0.00	0.08	0.069	0					0.04
60.583	0.00	0.08	0.069	0					0.04
60.667	0.00	0.08	0.068	0					0.04
60.750	0.00	0.08	0.068	0					0.04
60.833	0.00	0.08	0.067	0					0.04
60.917	0.00	0.08	0.067	0					0.04
61.000	0.00	0.07	0.066	0					0.04
61.083	0.00	0.07	0.066	0					0.04
61.167	0.00	0.07	0.065	0					0.04
61.250	0.00	0.07	0.065	0					0.04
61.333	0.00	0.07	0.064	0					0.04
61.417	0.00	0.07	0.064	0					0.04
61.500	0.00	0.07	0.063	0					0.04
61.583	0.00	0.07	0.063	0					0.04
61.667	0.00	0.07	0.062	0					0.04
61.750	0.00	0.07	0.062	0					0.04
61.833	0.00	0.07	0.061	0					0.04
61.917	0.00	0.07	0.061	0					0.04
62.000	0.00	0.07	0.060	0					0.04
62.083	0.00	0.07	0.060	0					0.04
62.167	0.00	0.07	0.059	0					0.03
62.250	0.00	0.07	0.059	0					0.03
62.333	0.00	0.07	0.058	0					0.03



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.07	0.058	0					0.03
62.500	0.00	0.06	0.057	0					0.03
62.583	0.00	0.06	0.057	0					0.03
62.667	0.00	0.06	0.057	0					0.03
62.750	0.00	0.06	0.056	0					0.03
62.833	0.00	0.06	0.056	0					0.03
62.917	0.00	0.06	0.055	0					0.03
63.000	0.00	0.06	0.055	0					0.03
63.083	0.00	0.06	0.054	0					0.03
63.167	0.00	0.06	0.054	0					0.03
63.250	0.00	0.06	0.054	0					0.03
63.333	0.00	0.06	0.053	0					0.03
63.417	0.00	0.06	0.053	0					0.03
63.500	0.00	0.06	0.052	0					0.03
63.583	0.00	0.06	0.052	0					0.03
63.667	0.00	0.06	0.051	0					0.03
63.750	0.00	0.06	0.051	0					0.03
63.833	0.00	0.06	0.051	0					0.03
63.917	0.00	0.06	0.050	0					0.03
64.000	0.00	0.06	0.050	0					0.03
64.083	0.00	0.06	0.050	0					0.03
64.167	0.00	0.06	0.049	0					0.03
64.250	0.00	0.06	0.049	0					0.03
64.333	0.00	0.05	0.048	0					0.03
64.417	0.00	0.05	0.048	0					0.03
64.500	0.00	0.05	0.048	0					0.03
64.583	0.00	0.05	0.047	0					0.03
64.667	0.00	0.05	0.047	0					0.03
64.750	0.00	0.05	0.047	0					0.03
64.833	0.00	0.05	0.046	0					0.03
64.917	0.00	0.05	0.046	0					0.03
65.000	0.00	0.05	0.045	0					0.03
65.083	0.00	0.05	0.045	0					0.03
65.167	0.00	0.05	0.045	0					0.03
65.250	0.00	0.05	0.044	0					0.03
65.333	0.00	0.05	0.044	0					0.03
65.417	0.00	0.05	0.044	0					0.03
65.500	0.00	0.05	0.043	0					0.03
65.583	0.00	0.05	0.043	0					0.03
65.667	0.00	0.05	0.043	0					0.03
65.750	0.00	0.05	0.042	0					0.03
65.833	0.00	0.05	0.042	0					0.02
65.917	0.00	0.05	0.042	0					0.02
66.000	0.00	0.05	0.041	0					0.02
66.083	0.00	0.05	0.041	0					0.02
66.167	0.00	0.05	0.041	0					0.02
66.250	0.00	0.05	0.040	0					0.02
66.333	0.00	0.05	0.040	0					0.02
66.417	0.00	0.04	0.040	0					0.02
66.500	0.00	0.04	0.040	0					0.02
66.583	0.00	0.04	0.039	0					0.02
66.667	0.00	0.04	0.039	0					0.02
66.750	0.00	0.04	0.039	0					0.02
66.833	0.00	0.04	0.038	0					0.02
66.917	0.00	0.04	0.038	0					0.02
67.000	0.00	0.04	0.038	0					0.02
67.083	0.00	0.04	0.037	0					0.02
67.167	0.00	0.04	0.037	0					0.02
67.250	0.00	0.04	0.037	0					0.02
67.333	0.00	0.04	0.037	0					0.02
67.417	0.00	0.04	0.036	0					0.02
67.500	0.00	0.04	0.036	0					0.02
67.583	0.00	0.04	0.036	0					0.02

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.04	0.035	0					0.02
67.750	0.00	0.04	0.035	0					0.02
67.833	0.00	0.04	0.035	0					0.02
67.917	0.00	0.04	0.035	0					0.02
68.000	0.00	0.04	0.034	0					0.02
68.083	0.00	0.04	0.034	0					0.02
68.167	0.00	0.04	0.034	0					0.02
68.250	0.00	0.04	0.034	0					0.02
68.333	0.00	0.04	0.033	0					0.02
68.417	0.00	0.04	0.033	0					0.02
68.500	0.00	0.04	0.033	0					0.02
68.583	0.00	0.04	0.033	0					0.02
68.667	0.00	0.04	0.032	0					0.02
68.750	0.00	0.04	0.032	0					0.02
68.833	0.00	0.04	0.032	0					0.02
68.917	0.00	0.04	0.032	0					0.02
69.000	0.00	0.04	0.031	0					0.02
69.083	0.00	0.04	0.031	0					0.02
69.167	0.00	0.03	0.031	0					0.02
69.250	0.00	0.03	0.031	0					0.02
69.333	0.00	0.03	0.030	0					0.02
69.417	0.00	0.03	0.030	0					0.02
69.500	0.00	0.03	0.030	0					0.02
69.583	0.00	0.03	0.030	0					0.02
69.667	0.00	0.03	0.029	0					0.02
69.750	0.00	0.03	0.029	0					0.02
69.833	0.00	0.03	0.029	0					0.02
69.917	0.00	0.03	0.029	0					0.02
70.000	0.00	0.03	0.029	0					0.02
70.083	0.00	0.03	0.028	0					0.02
70.167	0.00	0.03	0.028	0					0.02
70.250	0.00	0.03	0.028	0					0.02
70.333	0.00	0.03	0.028	0					0.02
70.417	0.00	0.03	0.027	0					0.02
70.500	0.00	0.03	0.027	0					0.02
70.583	0.00	0.03	0.027	0					0.02
70.667	0.00	0.03	0.027	0					0.02
70.750	0.00	0.03	0.027	0					0.02
70.833	0.00	0.03	0.026	0					0.02
70.917	0.00	0.03	0.026	0					0.02
71.000	0.00	0.03	0.026	0					0.02
71.083	0.00	0.03	0.026	0					0.02
71.167	0.00	0.03	0.026	0					0.02
71.250	0.00	0.03	0.025	0					0.01
71.333	0.00	0.03	0.025	0					0.01
71.417	0.00	0.03	0.025	0					0.01
71.500	0.00	0.03	0.025	0					0.01
71.583	0.00	0.03	0.025	0					0.01
71.667	0.00	0.03	0.024	0					0.01
71.750	0.00	0.03	0.024	0					0.01
71.833	0.00	0.03	0.024	0					0.01
71.917	0.00	0.03	0.024	0					0.01
72.000	0.00	0.03	0.024	0					0.01
72.083	0.00	0.03	0.023	0					0.01
72.167	0.00	0.03	0.023	0					0.01
72.250	0.00	0.03	0.023	0					0.01
72.333	0.00	0.03	0.023	0					0.01
72.417	0.00	0.03	0.023	0					0.01
72.500	0.00	0.03	0.023	0					0.01
72.583	0.00	0.03	0.022	0					0.01
72.667	0.00	0.03	0.022	0					0.01
72.750	0.00	0.02	0.022	0					0.01
72.833	0.00	0.02	0.022	0					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.02	0.022	o					0.01
73.000	0.00	0.02	0.022	o					0.01
73.083	0.00	0.02	0.021	o					0.01
73.167	0.00	0.02	0.021	o					0.01
73.250	0.00	0.02	0.021	o					0.01
73.333	0.00	0.02	0.021	o					0.01
73.417	0.00	0.02	0.021	o					0.01
73.500	0.00	0.02	0.021	o					0.01
73.583	0.00	0.02	0.020	o					0.01
73.667	0.00	0.02	0.020	o					0.01
73.750	0.00	0.02	0.020	o					0.01
73.833	0.00	0.02	0.020	o					0.01
73.917	0.00	0.02	0.020	o					0.01
74.000	0.00	0.02	0.020	o					0.01
74.083	0.00	0.02	0.019	o					0.01
74.167	0.00	0.02	0.019	o					0.01
74.250	0.00	0.02	0.019	o					0.01
74.333	0.00	0.02	0.019	o					0.01
74.417	0.00	0.02	0.019	o					0.01
74.500	0.00	0.02	0.019	o					0.01
74.583	0.00	0.02	0.019	o					0.01
74.667	0.00	0.02	0.018	o					0.01
74.750	0.00	0.02	0.018	o					0.01
74.833	0.00	0.02	0.018	o					0.01
74.917	0.00	0.02	0.018	o					0.01
75.000	0.00	0.02	0.018	o					0.01
75.083	0.00	0.02	0.018	o					0.01
75.167	0.00	0.02	0.018	o					0.01
75.250	0.00	0.02	0.017	o					0.01
75.333	0.00	0.02	0.017	o					0.01
75.417	0.00	0.02	0.017	o					0.01
75.500	0.00	0.02	0.017	o					0.01
75.583	0.00	0.02	0.017	o					0.01
75.667	0.00	0.02	0.017	o					0.01
75.750	0.00	0.02	0.017	o					0.01
75.833	0.00	0.02	0.017	o					0.01
75.917	0.00	0.02	0.016	o					0.01
76.000	0.00	0.02	0.016	o					0.01
76.083	0.00	0.02	0.016	o					0.01
76.167	0.00	0.02	0.016	o					0.01
76.250	0.00	0.02	0.016	o					0.01
76.333	0.00	0.02	0.016	o					0.01
76.417	0.00	0.02	0.016	o					0.01
76.500	0.00	0.02	0.016	o					0.01
76.583	0.00	0.02	0.015	o					0.01
76.667	0.00	0.02	0.015	o					0.01
76.750	0.00	0.02	0.015	o					0.01
76.833	0.00	0.02	0.015	o					0.01
76.917	0.00	0.02	0.015	o					0.01
77.000	0.00	0.02	0.015	o					0.01
77.083	0.00	0.02	0.015	o					0.01
77.167	0.00	0.02	0.015	o					0.01
77.250	0.00	0.02	0.015	o					0.01
77.333	0.00	0.02	0.014	o					0.01
77.417	0.00	0.02	0.014	o					0.01
77.500	0.00	0.02	0.014	o					0.01
77.583	0.00	0.02	0.014	o					0.01
77.667	0.00	0.02	0.014	o					0.01
77.750	0.00	0.02	0.014	o					0.01
77.833	0.00	0.02	0.014	o					0.01
77.917	0.00	0.02	0.014	o					0.01
78.000	0.00	0.02	0.014	o					0.01
78.083	0.00	0.02	0.013	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.02	0.013	o					0.01
78.250	0.00	0.01	0.013	o					0.01
78.333	0.00	0.01	0.013	o					0.01
78.417	0.00	0.01	0.013	o					0.01
78.500	0.00	0.01	0.013	o					0.01
78.583	0.00	0.01	0.013	o					0.01
78.667	0.00	0.01	0.013	o					0.01
78.750	0.00	0.01	0.013	o					0.01
78.833	0.00	0.01	0.013	o					0.01
78.917	0.00	0.01	0.012	o					0.01
79.000	0.00	0.01	0.012	o					0.01
79.083	0.00	0.01	0.012	o					0.01
79.167	0.00	0.01	0.012	o					0.01
79.250	0.00	0.01	0.012	o					0.01
79.333	0.00	0.01	0.012	o					0.01
79.417	0.00	0.01	0.012	o					0.01
79.500	0.00	0.01	0.012	o					0.01
79.583	0.00	0.01	0.012	o					0.01
79.667	0.00	0.01	0.012	o					0.01
79.750	0.00	0.01	0.011	o					0.01
79.833	0.00	0.01	0.011	o					0.01
79.917	0.00	0.01	0.011	o					0.01
80.000	0.00	0.01	0.011	o					0.01
80.083	0.00	0.01	0.011	o					0.01
80.167	0.00	0.01	0.011	o					0.01
80.250	0.00	0.01	0.011	o					0.01
80.333	0.00	0.01	0.011	o					0.01
80.417	0.00	0.01	0.011	o					0.01
80.500	0.00	0.01	0.011	o					0.01
80.583	0.00	0.01	0.011	o					0.01
80.667	0.00	0.01	0.011	o					0.01
80.750	0.00	0.01	0.010	o					0.01
80.833	0.00	0.01	0.010	o					0.01
80.917	0.00	0.01	0.010	o					0.01
81.000	0.00	0.01	0.010	o					0.01
81.083	0.00	0.01	0.010	o					0.01
81.167	0.00	0.01	0.010	o					0.01
81.250	0.00	0.01	0.010	o					0.01
81.333	0.00	0.01	0.010	o					0.01
81.417	0.00	0.01	0.010	o					0.01
81.500	0.00	0.01	0.010	o					0.01
81.583	0.00	0.01	0.010	o					0.01
81.667	0.00	0.01	0.010	o					0.01
81.750	0.00	0.01	0.010	o					0.01
81.833	0.00	0.01	0.009	o					0.01
81.917	0.00	0.01	0.009	o					0.01
82.000	0.00	0.01	0.009	o					0.01
82.083	0.00	0.01	0.009	o					0.01
82.167	0.00	0.01	0.009	o					0.01
82.250	0.00	0.01	0.009	o					0.01
82.333	0.00	0.01	0.009	o					0.01
82.417	0.00	0.01	0.009	o					0.01
82.500	0.00	0.01	0.009	o					0.01
82.583	0.00	0.01	0.009	o					0.01
82.667	0.00	0.01	0.009	o					0.01
82.750	0.00	0.01	0.009	o					0.01
82.833	0.00	0.01	0.009	o					0.01
82.917	0.00	0.01	0.009	o					0.01
83.000	0.00	0.01	0.008	o					0.01
83.083	0.00	0.01	0.008	o					0.00
83.167	0.00	0.01	0.008	o					0.00
83.250	0.00	0.01	0.008	o					0.00
83.333	0.00	0.01	0.008	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.01	0.008	o					0.00
83.500	0.00	0.01	0.008	o					0.00
83.583	0.00	0.01	0.008	o					0.00
83.667	0.00	0.01	0.008	o					0.00
83.750	0.00	0.01	0.008	o					0.00
83.833	0.00	0.01	0.008	o					0.00
83.917	0.00	0.01	0.008	o					0.00
84.000	0.00	0.01	0.008	o					0.00
84.083	0.00	0.01	0.008	o					0.00
84.167	0.00	0.01	0.008	o					0.00
84.250	0.00	0.01	0.008	o					0.00
84.333	0.00	0.01	0.007	o					0.00
84.417	0.00	0.01	0.007	o					0.00
84.500	0.00	0.01	0.007	o					0.00
84.583	0.00	0.01	0.007	o					0.00
84.667	0.00	0.01	0.007	o					0.00
84.750	0.00	0.01	0.007	o					0.00
84.833	0.00	0.01	0.007	o					0.00
84.917	0.00	0.01	0.007	o					0.00
85.000	0.00	0.01	0.007	o					0.00
85.083	0.00	0.01	0.007	o					0.00
85.167	0.00	0.01	0.007	o					0.00
85.250	0.00	0.01	0.007	o					0.00
85.333	0.00	0.01	0.007	o					0.00
85.417	0.00	0.01	0.007	o					0.00
85.500	0.00	0.01	0.007	o					0.00
85.583	0.00	0.01	0.007	o					0.00
85.667	0.00	0.01	0.007	o					0.00
85.750	0.00	0.01	0.007	o					0.00
85.833	0.00	0.01	0.007	o					0.00
85.917	0.00	0.01	0.006	o					0.00
86.000	0.00	0.01	0.006	o					0.00
86.083	0.00	0.01	0.006	o					0.00
86.167	0.00	0.01	0.006	o					0.00
86.250	0.00	0.01	0.006	o					0.00
86.333	0.00	0.01	0.006	o					0.00
86.417	0.00	0.01	0.006	o					0.00
86.500	0.00	0.01	0.006	o					0.00
86.583	0.00	0.01	0.006	o					0.00
86.667	0.00	0.01	0.006	o					0.00
86.750	0.00	0.01	0.006	o					0.00
86.833	0.00	0.01	0.006	o					0.00
86.917	0.00	0.01	0.006	o					0.00
87.000	0.00	0.01	0.006	o					0.00
87.083	0.00	0.01	0.006	o					0.00
87.167	0.00	0.01	0.006	o					0.00
87.250	0.00	0.01	0.006	o					0.00
87.333	0.00	0.01	0.006	o					0.00
87.417	0.00	0.01	0.006	o					0.00
87.500	0.00	0.01	0.006	o					0.00
87.583	0.00	0.01	0.006	o					0.00
87.667	0.00	0.01	0.005	o					0.00
87.750	0.00	0.01	0.005	o					0.00
87.833	0.00	0.01	0.005	o					0.00
87.917	0.00	0.01	0.005	o					0.00
88.000	0.00	0.01	0.005	o					0.00
88.083	0.00	0.01	0.005	o					0.00
88.167	0.00	0.01	0.005	o					0.00
88.250	0.00	0.01	0.005	o					0.00
88.333	0.00	0.01	0.005	o					0.00
88.417	0.00	0.01	0.005	o					0.00
88.500	0.00	0.01	0.005	o					0.00
88.583	0.00	0.01	0.005	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.01	0.005	0					0.00
88.750	0.00	0.01	0.005	0					0.00
88.833	0.00	0.01	0.005	0					0.00
88.917	0.00	0.01	0.005	0					0.00
89.000	0.00	0.01	0.005	0					0.00
89.083	0.00	0.01	0.005	0					0.00
89.167	0.00	0.01	0.005	0					0.00
89.250	0.00	0.01	0.005	0					0.00
89.333	0.00	0.01	0.005	0					0.00
89.417	0.00	0.01	0.005	0					0.00
89.500	0.00	0.01	0.005	0					0.00
89.583	0.00	0.01	0.005	0					0.00
89.667	0.00	0.01	0.005	0					0.00
89.750	0.00	0.01	0.005	0					0.00
89.833	0.00	0.01	0.004	0					0.00
89.917	0.00	0.01	0.004	0					0.00
90.000	0.00	0.00	0.004	0					0.00
90.083	0.00	0.00	0.004	0					0.00
90.167	0.00	0.00	0.004	0					0.00
90.250	0.00	0.00	0.004	0					0.00
90.333	0.00	0.00	0.004	0					0.00
90.417	0.00	0.00	0.004	0					0.00
90.500	0.00	0.00	0.004	0					0.00
90.583	0.00	0.00	0.004	0					0.00
90.667	0.00	0.00	0.004	0					0.00
90.750	0.00	0.00	0.004	0					0.00
90.833	0.00	0.00	0.004	0					0.00
90.917	0.00	0.00	0.004	0					0.00
91.000	0.00	0.00	0.004	0					0.00
91.083	0.00	0.00	0.004	0					0.00
91.167	0.00	0.00	0.004	0					0.00
91.250	0.00	0.00	0.004	0					0.00
91.333	0.00	0.00	0.004	0					0.00
91.417	0.00	0.00	0.004	0					0.00
91.500	0.00	0.00	0.004	0					0.00
91.583	0.00	0.00	0.004	0					0.00
91.667	0.00	0.00	0.004	0					0.00
91.750	0.00	0.00	0.004	0					0.00
91.833	0.00	0.00	0.004	0					0.00
91.917	0.00	0.00	0.004	0					0.00
92.000	0.00	0.00	0.004	0					0.00
92.083	0.00	0.00	0.004	0					0.00
92.167	0.00	0.00	0.004	0					0.00
92.250	0.00	0.00	0.004	0					0.00
92.333	0.00	0.00	0.004	0					0.00
92.417	0.00	0.00	0.004	0					0.00
92.500	0.00	0.00	0.004	0					0.00
92.583	0.00	0.00	0.003	0					0.00
92.667	0.00	0.00	0.003	0					0.00
92.750	0.00	0.00	0.003	0					0.00
92.833	0.00	0.00	0.003	0					0.00
92.917	0.00	0.00	0.003	0					0.00
93.000	0.00	0.00	0.003	0					0.00
93.083	0.00	0.00	0.003	0					0.00
93.167	0.00	0.00	0.003	0					0.00
93.250	0.00	0.00	0.003	0					0.00
93.333	0.00	0.00	0.003	0					0.00
93.417	0.00	0.00	0.003	0					0.00
93.500	0.00	0.00	0.003	0					0.00
93.583	0.00	0.00	0.003	0					0.00
93.667	0.00	0.00	0.003	0					0.00
93.750	0.00	0.00	0.003	0					0.00
93.833	0.00	0.00	0.003	0					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.00	0.003	o					0.00
94.000	0.00	0.00	0.003	o					0.00
94.083	0.00	0.00	0.003	o					0.00
94.167	0.00	0.00	0.003	o					0.00
94.250	0.00	0.00	0.003	o					0.00
94.333	0.00	0.00	0.003	o					0.00
94.417	0.00	0.00	0.003	o					0.00
94.500	0.00	0.00	0.003	o					0.00
94.583	0.00	0.00	0.003	o					0.00
94.667	0.00	0.00	0.003	o					0.00
94.750	0.00	0.00	0.003	o					0.00
94.833	0.00	0.00	0.003	o					0.00
94.917	0.00	0.00	0.003	o					0.00
95.000	0.00	0.00	0.003	o					0.00
95.083	0.00	0.00	0.003	o					0.00
95.167	0.00	0.00	0.003	o					0.00
95.250	0.00	0.00	0.003	o					0.00
95.333	0.00	0.00	0.003	o					0.00
95.417	0.00	0.00	0.003	o					0.00
95.500	0.00	0.00	0.003	o					0.00
95.583	0.00	0.00	0.003	o					0.00
95.667	0.00	0.00	0.003	o					0.00
95.750	0.00	0.00	0.003	o					0.00
95.833	0.00	0.00	0.003	o					0.00
95.917	0.00	0.00	0.003	o					0.00
96.000	0.00	0.00	0.003	o					0.00
96.083	0.00	0.00	0.003	o					0.00
96.167	0.00	0.00	0.002	o					0.00
96.250	0.00	0.00	0.002	o					0.00
96.333	0.00	0.00	0.002	o					0.00
96.417	0.00	0.00	0.002	o					0.00
96.500	0.00	0.00	0.002	o					0.00
96.583	0.00	0.00	0.002	o					0.00
96.667	0.00	0.00	0.002	o					0.00
96.750	0.00	0.00	0.002	o					0.00
96.833	0.00	0.00	0.002	o					0.00
96.917	0.00	0.00	0.002	o					0.00
97.000	0.00	0.00	0.002	o					0.00
97.083	0.00	0.00	0.002	o					0.00
97.167	0.00	0.00	0.002	o					0.00
97.250	0.00	0.00	0.002	o					0.00
97.333	0.00	0.00	0.002	o					0.00
97.417	0.00	0.00	0.002	o					0.00
97.500	0.00	0.00	0.002	o					0.00
97.583	0.00	0.00	0.002	o					0.00
97.667	0.00	0.00	0.002	o					0.00
97.750	0.00	0.00	0.002	o					0.00
97.833	0.00	0.00	0.002	o					0.00
97.917	0.00	0.00	0.002	o					0.00
98.000	0.00	0.00	0.002	o					0.00
98.083	0.00	0.00	0.002	o					0.00
98.167	0.00	0.00	0.002	o					0.00
98.250	0.00	0.00	0.002	o					0.00
98.333	0.00	0.00	0.002	o					0.00
98.417	0.00	0.00	0.002	o					0.00
98.500	0.00	0.00	0.002	o					0.00
98.583	0.00	0.00	0.002	o					0.00
98.667	0.00	0.00	0.002	o					0.00
98.750	0.00	0.00	0.002	o					0.00
98.833	0.00	0.00	0.002	o					0.00
98.917	0.00	0.00	0.002	o					0.00
99.000	0.00	0.00	0.002	o					0.00
99.083	0.00	0.00	0.002	o					0.00

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.00	0.002	o					0.00
99.250	0.00	0.00	0.002	o					0.00
99.333	0.00	0.00	0.002	o					0.00
99.417	0.00	0.00	0.002	o					0.00
99.500	0.00	0.00	0.002	o					0.00
99.583	0.00	0.00	0.002	o					0.00
99.667	0.00	0.00	0.002	o					0.00
99.750	0.00	0.00	0.002	o					0.00
99.833	0.00	0.00	0.002	o					0.00
99.917	0.00	0.00	0.002	o					0.00
100.000	0.00	0.00	0.002	o					0.00
100.083	0.00	0.00	0.002	o					0.00
100.167	0.00	0.00	0.002	o					0.00
100.250	0.00	0.00	0.002	o					0.00
100.333	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 1204
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 2.559 (CFS)
      Total volume = 6.170 (Ac.Ft)
      Status of hydrographs being held in storage
            Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
      Peak (CFS)      0.000    0.000    0.000    0.000    0.000
      Vol (Ac.Ft)     0.000    0.000    0.000    0.000    0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 2-year 24-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx2prh242.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 294  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 17.460 (CFS)  
 Total volume = 10.635 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 294  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	4.4	8.73	13.09	17.46	Depth (Ft.)
0.083	0.25	0.00	0.001	O					0.00
0.167	0.75	0.00	0.004	OI					0.00
0.250	0.89	0.01	0.010	OI					0.01
0.333	1.08	0.02	0.017	OI					0.01
0.417	1.37	0.03	0.025	O I					0.01
0.500	1.46	0.04	0.034	O I					0.02
0.583	1.51	0.05	0.044	O I					0.03
0.667	1.53	0.06	0.054	O I					0.03
0.750	1.54	0.07	0.064	O I					0.04
0.833	1.67	0.08	0.075	O I					0.04
0.917	1.92	0.10	0.087	O I					0.05
1.000	1.99	0.11	0.099	O I					0.06
1.083	1.90	0.13	0.112	O I					0.07
1.167	1.66	0.14	0.123	O I					0.07
1.250	1.60	0.15	0.134	O I					0.08
1.333	1.58	0.16	0.144	O I					0.08
1.417	1.56	0.17	0.153	O I					0.09
1.500	1.55	0.18	0.163	O I					0.10
1.583	1.54	0.19	0.172	O I					0.10
1.667	1.54	0.20	0.181	O I					0.11
1.750	1.54	0.21	0.190	O I					0.11
1.833	1.67	0.23	0.200	O I					0.12
1.917	1.92	0.24	0.211	O I					0.12
2.000	1.99	0.25	0.223	O I					0.13
2.083	2.02	0.26	0.235	O I					0.14
2.167	2.04	0.28	0.247	O I					0.15
2.250	2.05	0.29	0.259	O I					0.15
2.333	2.06	0.31	0.271	O I					0.16
2.417	2.06	0.32	0.283	O I					0.17
2.500	2.06	0.33	0.295	O I					0.17
2.583	2.18	0.35	0.307	O I					0.18
2.667	2.44	0.36	0.321	O I					0.19
2.750	2.51	0.38	0.335	O I					0.20
2.833	2.54	0.39	0.350	O I					0.21
2.917	2.56	0.41	0.365	O I					0.22
3.000	2.57	0.43	0.379	O I					0.22
3.083	2.57	0.44	0.394	O I					0.23
3.167	2.57	0.46	0.409	O I					0.24
3.250	2.57	0.48	0.423	O I					0.25
3.333	2.57	0.49	0.438	O I					0.26
3.417	2.57	0.51	0.452	O I					0.27
3.500	2.57	0.53	0.466	O I					0.28
3.583	2.57	0.54	0.480	O I					0.28
3.667	2.57	0.56	0.494	O I					0.29
3.750	2.57	0.57	0.508	O I					0.30
3.833	2.70	0.59	0.522	O I					0.31
3.917	2.95	0.61	0.537	O I					0.32
4.000	3.02	0.62	0.554	O I					0.33
4.083	3.05	0.64	0.570	O I					0.34
4.167	3.07	0.66	0.587	O I					0.35
4.250	3.08	0.68	0.603	O I					0.36
4.333	3.21	0.70	0.620	O I					0.37
4.417	3.47	0.72	0.638	O I					0.38
4.500	3.54	0.74	0.657	O I					0.39
4.583	3.57	0.76	0.677	O I					0.40

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	3.58	0.79	0.696	O	I				0.41
4.750	3.59	0.81	0.715	O	I				0.42
4.833	3.73	0.83	0.735	O	I				0.43
4.917	3.98	0.85	0.756	O	I				0.45
5.000	4.05	0.88	0.777	O	I				0.46
5.083	3.83	0.90	0.798	O	I				0.47
5.167	3.35	0.92	0.817	O	I				0.48
5.250	3.22	0.94	0.833	O	I				0.49
5.333	3.29	0.96	0.849	O	I				0.50
5.417	3.50	0.98	0.865	O	I				0.51
5.500	3.55	1.00	0.883	O	I				0.52
5.583	3.69	1.02	0.901	O	I				0.53
5.667	3.96	1.04	0.920	O	I				0.54
5.750	4.04	1.06	0.941	O	I				0.56
5.833	4.08	1.08	0.961	O	I				0.57
5.917	4.10	1.11	0.982	O	I				0.58
6.000	4.11	1.13	1.002	O	I				0.59
6.083	4.24	1.15	1.023	O	I				0.60
6.167	4.49	1.18	1.045	O	I				0.62
6.250	4.56	1.21	1.068	O	I				0.63
6.333	4.60	1.23	1.091	O	I				0.64
6.417	4.61	1.26	1.115	O	I				0.66
6.500	4.62	1.28	1.138	O	I				0.67
6.583	4.76	1.31	1.161	O	I				0.69
6.667	5.01	1.34	1.186	O	I				0.70
6.750	5.08	1.37	1.211	O	I				0.72
6.833	5.11	1.40	1.237	O	I				0.73
6.917	5.13	1.42	1.262	O	I				0.75
7.000	5.14	1.45	1.288	O	I				0.76
7.083	5.15	1.48	1.313	O	I				0.78
7.167	5.15	1.51	1.338	O	I				0.79
7.250	5.15	1.54	1.363	O	I				0.81
7.333	5.27	1.57	1.388	O	I				0.82
7.417	5.52	1.60	1.414	O	I				0.84
7.500	5.59	1.63	1.442	O	I				0.85
7.583	5.75	1.66	1.469	O	I				0.87
7.667	6.02	1.69	1.498	O	I				0.89
7.750	6.10	1.72	1.528	O	I				0.90
7.833	6.27	1.76	1.559	O	I				0.92
7.917	6.54	1.79	1.591	O	I				0.94
8.000	6.62	1.83	1.624	O	I				0.96
8.083	6.91	1.87	1.657	O	I				0.98
8.167	7.43	1.91	1.694	O	I				1.00
8.250	7.58	1.92	1.732	O	I				1.02
8.333	7.65	1.93	1.771	O	I				1.04
8.417	7.68	1.93	1.811	O	I				1.06
8.500	7.70	1.94	1.851	O	I				1.07
8.583	7.85	1.95	1.891	O	I				1.09
8.667	8.10	1.96	1.932	O	I				1.11
8.750	8.17	1.97	1.975	O	I				1.13
8.833	8.33	1.98	2.018	O	I				1.15
8.917	8.59	1.99	2.063	O	I				1.17
9.000	8.67	1.99	2.108	O	I				1.20
9.083	8.97	2.00	2.155	O	I				1.22
9.167	9.49	2.01	2.205	O	I				1.24
9.250	9.64	2.02	2.257	O	I				1.27
9.333	9.83	2.04	2.310	O	I				1.29
9.417	10.12	2.05	2.365	O	I				1.32
9.500	10.21	2.06	2.421	O	I				1.34
9.583	10.38	2.07	2.477	O	I				1.37
9.667	10.65	2.08	2.535	O	I				1.40
9.750	10.73	2.09	2.595	O	I				1.43
9.833	10.90	2.11	2.655	O	I				1.46

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	11.17	2.12	2.716	O			I		1.48
10.000	11.25	2.13	2.779	O			I		1.51
10.083	10.41	2.14	2.839	O			I		1.54
10.167	8.67	2.15	2.889	O			I		1.57
10.250	8.19	2.16	2.933	O			I		1.59
10.333	7.98	2.17	2.973	O			I		1.61
10.417	7.85	2.18	3.013	O			I		1.62
10.500	7.78	2.19	3.052	O			I		1.64
10.583	8.35	2.19	3.092	O			I		1.66
10.667	9.61	2.20	3.139	O			I		1.68
10.750	9.95	2.21	3.191	O			I		1.71
10.833	10.11	2.23	3.245	O			I		1.73
10.917	10.20	2.24	3.299	O			I		1.76
11.000	10.25	2.25	3.354	O			I		1.79
11.083	10.17	2.26	3.409	O			I		1.81
11.167	9.92	2.27	3.463	O			I		1.84
11.250	9.85	2.28	3.515	O			I		1.86
11.333	9.82	2.29	3.567	O			I		1.89
11.417	9.80	2.30	3.619	O			I		1.91
11.500	9.79	2.31	3.670	O			I		1.94
11.583	9.53	2.32	3.721	O			I		1.96
11.667	9.03	2.33	3.769	O			I		1.98
11.750	8.89	2.34	3.814	O			I		2.00
11.833	8.95	2.35	3.860	O			I		2.02
11.917	9.16	2.35	3.906	O			I		2.04
12.000	9.21	2.36	3.953	O			I		2.05
12.083	10.11	2.37	4.003	O			I		2.07
12.167	11.89	2.37	4.063	O			I		2.09
12.250	12.38	2.38	4.130	O			I		2.12
12.333	12.74	2.39	4.200	O			I		2.14
12.417	13.11	2.40	4.272	O			I		2.17
12.500	13.26	2.41	4.347	O			I		2.20
12.583	13.60	2.42	4.422	O			I		2.23
12.667	14.12	2.43	4.501	O			I		2.25
12.750	14.27	2.45	4.582	O			I		2.28
12.833	14.47	2.46	4.664	O			I		2.31
12.917	14.75	2.47	4.748	O			I		2.35
13.000	14.84	2.48	4.833	O			I		2.38
13.083	15.52	2.49	4.920	O			I		2.41
13.167	16.79	2.50	5.014	O			I		2.44
13.250	17.15	2.52	5.114	O			I		2.48
13.333	17.32	2.53	5.215	O			I		2.52
13.417	17.41	2.54	5.317	O			I		2.55
13.500	17.46	2.56	5.420	O			I		2.59
13.583	16.12	2.57	5.518	O			I		2.63
13.667	13.35	2.58	5.601	O			I		2.66
13.750	12.59	2.59	5.673	O			I		2.68
13.833	12.24	2.60	5.740	O			I		2.71
13.917	12.04	2.61	5.806	O			I		2.73
14.000	11.93	2.62	5.871	O			I		2.76
14.083	12.34	2.63	5.936	O			I		2.78
14.167	13.35	2.64	6.006	O			I		2.81
14.250	13.63	2.65	6.081	O			I		2.83
14.333	13.63	2.66	6.157	O			I		2.86
14.417	13.45	2.67	6.232	O			I		2.89
14.500	13.42	2.68	6.306	O			I		2.92
14.583	13.42	2.69	6.380	O			I		2.94
14.667	13.40	2.70	6.453	O			I		2.97
14.750	13.39	2.71	6.527	O			I		3.00
14.833	13.26	2.72	6.600	O			I		3.02
14.917	13.01	2.72	6.672	O			I		3.04
15.000	12.94	2.73	6.742	O			I		3.06
15.083	12.78	2.74	6.812	O			I		3.09

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.167	12.51	2.74	6.880		O				I				3.11
15.250	12.43	2.75	6.947		O				I				3.13
15.333	12.26	2.76	7.013		O				I				3.15
15.417	12.00	2.76	7.078		O				I				3.17
15.500	11.92	2.77	7.141		O				I				3.19
15.583	11.37	2.78	7.202		O				I				3.21
15.667	10.35	2.78	7.258		O				I				3.23
15.750	10.06	2.79	7.309		O				I				3.24
15.833	9.93	2.79	7.359		O				I				3.26
15.917	9.85	2.80	7.407		O				I				3.27
16.000	9.81	2.80	7.456		O				I				3.29
16.083	7.89	2.81	7.498		O			I					3.30
16.167	4.12	2.81	7.520		O	I							3.31
16.250	3.08	2.81	7.525		O								3.31
16.333	2.60	2.81	7.525		IO								3.31
16.417	2.34	2.81	7.523		IO								3.31
16.500	2.18	2.81	7.519		IO								3.31
16.583	1.93	2.81	7.514		I O								3.31
16.667	1.68	2.81	7.507		I O								3.30
16.750	1.61	2.81	7.499		I O								3.30
16.833	1.58	2.81	7.491		I O								3.30
16.917	1.56	2.80	7.482		I O								3.30
17.000	1.55	2.80	7.474		I O								3.29
17.083	1.80	2.80	7.466		I O								3.29
17.167	2.30	2.80	7.461		IO								3.29
17.250	2.44	2.80	7.458		IO								3.29
17.333	2.50	2.80	7.455		IO								3.29
17.417	2.54	2.80	7.454		IO								3.29
17.500	2.56	2.80	7.452		IO								3.29
17.583	2.57	2.80	7.450		IO								3.29
17.667	2.57	2.80	7.449		IO								3.29
17.750	2.57	2.80	7.447		IO								3.28
17.833	2.45	2.80	7.445		IO								3.28
17.917	2.20	2.80	7.442		IO								3.28
18.000	2.13	2.80	7.437		I O								3.28
18.083	2.10	2.80	7.433		I O								3.28
18.167	2.08	2.80	7.428		I O								3.28
18.250	2.07	2.80	7.423		I O								3.28
18.333	2.06	2.80	7.418		I O								3.28
18.417	2.06	2.80	7.412		I O								3.27
18.500	2.06	2.80	7.407		I O								3.27
18.583	1.93	2.80	7.402		I O								3.27
18.667	1.68	2.80	7.395		I O								3.27
18.750	1.61	2.80	7.387		I O								3.27
18.833	1.45	2.79	7.378		I O								3.26
18.917	1.19	2.79	7.368		I O								3.26
19.000	1.11	2.79	7.357		I O								3.26
19.083	1.19	2.79	7.346		I O								3.25
19.167	1.43	2.79	7.335		I O								3.25
19.250	1.48	2.79	7.326		I O								3.25
19.333	1.63	2.79	7.318		I O								3.24
19.417	1.90	2.79	7.311		I O								3.24
19.500	1.98	2.79	7.305		I O								3.24
19.583	1.90	2.79	7.299		I O								3.24
19.667	1.66	2.79	7.292		I O								3.24
19.750	1.60	2.78	7.284		I O								3.23
19.833	1.45	2.78	7.276		I O								3.23
19.917	1.19	2.78	7.266		I O								3.23
20.000	1.11	2.78	7.254		I O								3.22
20.083	1.19	2.78	7.243		I O								3.22
20.167	1.43	2.78	7.233		I O								3.22
20.250	1.48	2.78	7.224		I O								3.22
20.333	1.51	2.78	7.215		I O								3.21

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	1.53	2.78	7.206		I	O						3.21
20.500	1.54	2.78	7.198		I	O						3.21
20.583	1.54	2.78	7.189		I	O						3.20
20.667	1.54	2.77	7.181		I	O						3.20
20.750	1.54	2.77	7.172		I	O						3.20
20.833	1.42	2.77	7.163		I	O						3.20
20.917	1.17	2.77	7.153		I	O						3.19
21.000	1.10	2.77	7.142		I	O						3.19
21.083	1.19	2.77	7.131		I	O						3.19
21.167	1.43	2.77	7.121		I	O						3.18
21.250	1.48	2.77	7.112		I	O						3.18
21.333	1.38	2.77	7.102		I	O						3.18
21.417	1.15	2.77	7.092		I	O						3.17
21.500	1.09	2.76	7.081		I	O						3.17
21.583	1.19	2.76	7.070		I	O						3.17
21.667	1.43	2.76	7.059		I	O						3.16
21.750	1.48	2.76	7.050		I	O						3.16
21.833	1.38	2.76	7.041		I	O						3.16
21.917	1.15	2.76	7.031		I	O						3.15
22.000	1.09	2.76	7.020		I	O						3.15
22.083	1.19	2.76	7.009		I	O						3.15
22.167	1.43	2.76	6.999		I	O						3.14
22.250	1.48	2.76	6.990		I	O						3.14
22.333	1.38	2.75	6.981		I	O						3.14
22.417	1.15	2.75	6.970		I	O						3.14
22.500	1.09	2.75	6.959		I	O						3.13
22.583	1.07	2.75	6.948		I	O						3.13
22.667	1.05	2.75	6.936		I	O						3.13
22.750	1.04	2.75	6.924		I	O						3.12
22.833	1.03	2.75	6.912		I	O						3.12
22.917	1.03	2.75	6.900		I	O						3.11
23.000	1.03	2.75	6.889		I	O						3.11
23.083	1.03	2.74	6.877		I	O						3.11
23.167	1.03	2.74	6.865		I	O						3.10
23.250	1.03	2.74	6.853		I	O						3.10
23.333	1.03	2.74	6.841		I	O						3.10
23.417	1.03	2.74	6.830		I	O						3.09
23.500	1.03	2.74	6.818		I	O						3.09
23.583	1.03	2.74	6.806		I	O						3.08
23.667	1.03	2.74	6.794		I	O						3.08
23.750	1.03	2.73	6.783		I	O						3.08
23.833	1.03	2.73	6.771		I	O						3.07
23.917	1.03	2.73	6.759		I	O						3.07
24.000	1.03	2.73	6.747		I	O						3.07
24.083	0.78	2.73	6.735		I	O						3.06
24.167	0.28	2.73	6.720		I	O						3.06
24.250	0.14	2.73	6.702		I	O						3.05
24.333	0.07	2.72	6.684		I	O						3.05
24.417	0.04	2.72	6.666		I	O						3.04
24.500	0.02	2.72	6.647		I	O						3.04
24.583	0.00	2.72	6.629		I	O						3.03
24.667	0.00	2.72	6.610		I	O						3.02
24.750	0.00	2.72	6.591		I	O						3.02
24.833	0.00	2.71	6.572		I	O						3.01
24.917	0.00	2.71	6.554		I	O						3.01
25.000	0.00	2.71	6.535		I	O						3.00
25.083	0.00	2.71	6.516		I	O						2.99
25.167	0.00	2.71	6.498		I	O						2.99
25.250	0.00	2.70	6.479		I	O						2.98
25.333	0.00	2.70	6.461		I	O						2.97
25.417	0.00	2.70	6.442		I	O						2.97
25.500	0.00	2.70	6.423		I	O						2.96
25.583	0.00	2.69	6.405		I	O						2.95

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.69	6.386	I	O					2.95
25.750	0.00	2.69	6.368	I	O					2.94
25.833	0.00	2.68	6.349	I	O					2.93
25.917	0.00	2.68	6.331	I	O					2.93
26.000	0.00	2.68	6.312	I	O					2.92
26.083	0.00	2.68	6.294	I	O					2.91
26.167	0.00	2.67	6.276	I	O					2.91
26.250	0.00	2.67	6.257	I	O					2.90
26.333	0.00	2.67	6.239	I	O					2.89
26.417	0.00	2.67	6.220	I	O					2.89
26.500	0.00	2.66	6.202	I	O					2.88
26.583	0.00	2.66	6.184	I	O					2.87
26.667	0.00	2.66	6.165	I	O					2.86
26.750	0.00	2.66	6.147	I	O					2.86
26.833	0.00	2.66	6.129	I	O					2.85
26.917	0.00	2.65	6.110	I	O					2.84
27.000	0.00	2.65	6.092	I	O					2.84
27.083	0.00	2.65	6.074	I	O					2.83
27.167	0.00	2.65	6.056	I	O					2.82
27.250	0.00	2.64	6.037	I	O					2.82
27.333	0.00	2.64	6.019	I	O					2.81
27.417	0.00	2.64	6.001	I	O					2.80
27.500	0.00	2.64	5.983	I	O					2.80
27.583	0.00	2.63	5.965	I	O					2.79
27.667	0.00	2.63	5.947	I	O					2.78
27.750	0.00	2.63	5.929	I	O					2.78
27.833	0.00	2.63	5.911	I	O					2.77
27.917	0.00	2.62	5.892	I	O					2.76
28.000	0.00	2.62	5.874	I	O					2.76
28.083	0.00	2.62	5.856	I	O					2.75
28.167	0.00	2.62	5.838	I	O					2.74
28.250	0.00	2.61	5.820	I	O					2.74
28.333	0.00	2.61	5.802	I	O					2.73
28.417	0.00	2.61	5.784	I	O					2.73
28.500	0.00	2.61	5.766	I	O					2.72
28.583	0.00	2.60	5.748	I	O					2.71
28.667	0.00	2.60	5.731	I	O					2.71
28.750	0.00	2.60	5.713	I	O					2.70
28.833	0.00	2.60	5.695	I	O					2.69
28.917	0.00	2.59	5.677	I	O					2.69
29.000	0.00	2.59	5.659	I	O					2.68
29.083	0.00	2.59	5.641	I	O					2.67
29.167	0.00	2.59	5.623	I	O					2.67
29.250	0.00	2.58	5.606	I	O					2.66
29.333	0.00	2.58	5.588	I	O					2.65
29.417	0.00	2.58	5.570	I	O					2.65
29.500	0.00	2.58	5.552	I	O					2.64
29.583	0.00	2.57	5.534	I	O					2.63
29.667	0.00	2.57	5.517	I	O					2.63
29.750	0.00	2.57	5.499	I	O					2.62
29.833	0.00	2.57	5.481	I	O					2.61
29.917	0.00	2.56	5.464	I	O					2.61
30.000	0.00	2.56	5.446	I	O					2.60
30.083	0.00	2.56	5.428	I	O					2.59
30.167	0.00	2.56	5.411	I	O					2.59
30.250	0.00	2.56	5.393	I	O					2.58
30.333	0.00	2.55	5.376	I	O					2.58
30.417	0.00	2.55	5.358	I	O					2.57
30.500	0.00	2.55	5.340	I	O					2.56
30.583	0.00	2.55	5.323	I	O					2.56
30.667	0.00	2.54	5.305	I	O					2.55
30.750	0.00	2.54	5.288	I	O					2.54
30.833	0.00	2.54	5.270	I	O					2.54

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	2.54	5.253	I	O					2.53
31.000	0.00	2.53	5.235	I	O					2.52
31.083	0.00	2.53	5.218	I	O					2.52
31.167	0.00	2.53	5.201	I	O					2.51
31.250	0.00	2.53	5.183	I	O					2.50
31.333	0.00	2.52	5.166	I	O					2.50
31.417	0.00	2.52	5.148	I	O					2.49
31.500	0.00	2.52	5.131	I	O					2.49
31.583	0.00	2.52	5.114	I	O					2.48
31.667	0.00	2.52	5.096	I	O					2.47
31.750	0.00	2.51	5.079	I	O					2.47
31.833	0.00	2.51	5.062	I	O					2.46
31.917	0.00	2.51	5.044	I	O					2.45
32.000	0.00	2.51	5.027	I	O					2.45
32.083	0.00	2.50	5.010	I	O					2.44
32.167	0.00	2.50	4.993	I	O					2.44
32.250	0.00	2.50	4.976	I	O					2.43
32.333	0.00	2.50	4.958	I	O					2.42
32.417	0.00	2.49	4.941	I	O					2.42
32.500	0.00	2.49	4.924	I	O					2.41
32.583	0.00	2.49	4.907	I	O					2.40
32.667	0.00	2.49	4.890	I	O					2.40
32.750	0.00	2.48	4.873	I	O					2.39
32.833	0.00	2.48	4.855	I	O					2.38
32.917	0.00	2.48	4.838	I	O					2.38
33.000	0.00	2.48	4.821	I	O					2.37
33.083	0.00	2.48	4.804	I	O					2.37
33.167	0.00	2.47	4.787	I	O					2.36
33.250	0.00	2.47	4.770	I	O					2.35
33.333	0.00	2.47	4.753	I	O					2.35
33.417	0.00	2.47	4.736	I	O					2.34
33.500	0.00	2.46	4.719	I	O					2.33
33.583	0.00	2.46	4.702	I	O					2.33
33.667	0.00	2.46	4.685	I	O					2.32
33.750	0.00	2.46	4.668	I	O					2.32
33.833	0.00	2.45	4.651	I	O					2.31
33.917	0.00	2.45	4.635	I	O					2.30
34.000	0.00	2.45	4.618	I	O					2.30
34.083	0.00	2.45	4.601	I	O					2.29
34.167	0.00	2.45	4.584	I	O					2.29
34.250	0.00	2.44	4.567	I	O					2.28
34.333	0.00	2.44	4.550	I	O					2.27
34.417	0.00	2.44	4.533	I	O					2.27
34.500	0.00	2.44	4.517	I	O					2.26
34.583	0.00	2.43	4.500	I	O					2.25
34.667	0.00	2.43	4.483	I	O					2.25
34.750	0.00	2.43	4.466	I	O					2.24
34.833	0.00	2.43	4.450	I	O					2.24
34.917	0.00	2.43	4.433	I	O					2.23
35.000	0.00	2.42	4.416	I	O					2.22
35.083	0.00	2.42	4.400	I	O					2.22
35.167	0.00	2.42	4.383	I	O					2.21
35.250	0.00	2.42	4.366	I	O					2.21
35.333	0.00	2.41	4.350	I	O					2.20
35.417	0.00	2.41	4.333	I	O					2.19
35.500	0.00	2.41	4.316	I	O					2.19
35.583	0.00	2.41	4.300	I	O					2.18
35.667	0.00	2.40	4.283	I	O					2.17
35.750	0.00	2.40	4.267	I	O					2.17
35.833	0.00	2.40	4.250	I	O					2.16
35.917	0.00	2.40	4.234	I	O					2.16
36.000	0.00	2.40	4.217	I	O					2.15
36.083	0.00	2.39	4.201	I	O					2.14



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	2.39	4.184	I	O					2.14
36.250	0.00	2.39	4.168	I	O					2.13
36.333	0.00	2.39	4.151	I	O					2.13
36.417	0.00	2.38	4.135	I	O					2.12
36.500	0.00	2.38	4.118	I	O					2.11
36.583	0.00	2.38	4.102	I	O					2.11
36.667	0.00	2.38	4.086	I	O					2.10
36.750	0.00	2.38	4.069	I	O					2.10
36.833	0.00	2.37	4.053	I	O					2.09
36.917	0.00	2.37	4.037	I	O					2.08
37.000	0.00	2.37	4.020	I	O					2.08
37.083	0.00	2.37	4.004	I	O					2.07
37.167	0.00	2.36	3.988	I	O					2.07
37.250	0.00	2.36	3.971	I	O					2.06
37.333	0.00	2.36	3.955	I	O					2.05
37.417	0.00	2.36	3.939	I	O					2.05
37.500	0.00	2.36	3.923	I	O					2.04
37.583	0.00	2.35	3.906	I	O					2.04
37.667	0.00	2.35	3.890	I	O					2.03
37.750	0.00	2.35	3.874	I	O					2.02
37.833	0.00	2.35	3.858	I	O					2.02
37.917	0.00	2.34	3.842	I	O					2.01
38.000	0.00	2.34	3.826	I	O					2.01
38.083	0.00	2.34	3.809	I	O					2.00
38.167	0.00	2.34	3.793	I	O					1.99
38.250	0.00	2.33	3.777	I	O					1.99
38.333	0.00	2.33	3.761	I	O					1.98
38.417	0.00	2.33	3.745	I	O					1.97
38.500	0.00	2.32	3.729	I	O					1.96
38.583	0.00	2.32	3.713	I	O					1.96
38.667	0.00	2.32	3.697	I	O					1.95
38.750	0.00	2.31	3.681	I	O					1.94
38.833	0.00	2.31	3.665	I	O					1.93
38.917	0.00	2.31	3.649	I	O					1.93
39.000	0.00	2.30	3.634	I	O					1.92
39.083	0.00	2.30	3.618	I	O					1.91
39.167	0.00	2.30	3.602	I	O					1.90
39.250	0.00	2.30	3.586	I	O					1.90
39.333	0.00	2.29	3.570	I	O					1.89
39.417	0.00	2.29	3.554	I	O					1.88
39.500	0.00	2.29	3.539	I	O					1.87
39.583	0.00	2.28	3.523	I	O					1.87
39.667	0.00	2.28	3.507	I	O					1.86
39.750	0.00	2.28	3.492	I	O					1.85
39.833	0.00	2.27	3.476	I	O					1.84
39.917	0.00	2.27	3.460	I	O					1.84
40.000	0.00	2.27	3.445	I	O					1.83
40.083	0.00	2.26	3.429	I	O					1.82
40.167	0.00	2.26	3.413	I	O					1.81
40.250	0.00	2.26	3.398	I	O					1.81
40.333	0.00	2.25	3.382	I	O					1.80
40.417	0.00	2.25	3.367	I	O					1.79
40.500	0.00	2.25	3.351	I	O					1.78
40.583	0.00	2.24	3.336	I	O					1.78
40.667	0.00	2.24	3.320	I	O					1.77
40.750	0.00	2.24	3.305	I	O					1.76
40.833	0.00	2.23	3.290	I	O					1.76
40.917	0.00	2.23	3.274	I	O					1.75
41.000	0.00	2.23	3.259	I	O					1.74
41.083	0.00	2.23	3.244	I	O					1.73
41.167	0.00	2.22	3.228	I	O					1.73
41.250	0.00	2.22	3.213	I	O					1.72
41.333	0.00	2.22	3.198	I	O					1.71

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

41.417	0.00	2.21	3.182	I	O					1.70
41.500	0.00	2.21	3.167	I	O					1.70
41.583	0.00	2.21	3.152	I	O					1.69
41.667	0.00	2.20	3.137	I	O					1.68
41.750	0.00	2.20	3.122	I	O					1.68
41.833	0.00	2.20	3.106	I	O					1.67
41.917	0.00	2.19	3.091	I	O					1.66
42.000	0.00	2.19	3.076	I	O					1.65
42.083	0.00	2.19	3.061	I	O					1.65
42.167	0.00	2.19	3.046	I	O					1.64
42.250	0.00	2.18	3.031	I	O					1.63
42.333	0.00	2.18	3.016	I	O					1.63
42.417	0.00	2.18	3.001	I	O					1.62
42.500	0.00	2.17	2.986	I	O					1.61
42.583	0.00	2.17	2.971	I	O					1.60
42.667	0.00	2.17	2.956	I	O					1.60
42.750	0.00	2.16	2.941	I	O					1.59
42.833	0.00	2.16	2.926	I	O					1.58
42.917	0.00	2.16	2.911	I	O					1.58
43.000	0.00	2.15	2.897	I	O					1.57
43.083	0.00	2.15	2.882	I	O					1.56
43.167	0.00	2.15	2.867	I	O					1.56
43.250	0.00	2.15	2.852	I	O					1.55
43.333	0.00	2.14	2.837	I	O					1.54
43.417	0.00	2.14	2.823	I	O					1.53
43.500	0.00	2.14	2.808	I	O					1.53
43.583	0.00	2.13	2.793	I	O					1.52
43.667	0.00	2.13	2.779	I	O					1.51
43.750	0.00	2.13	2.764	I	O					1.51
43.833	0.00	2.12	2.749	I	O					1.50
43.917	0.00	2.12	2.735	I	O					1.49
44.000	0.00	2.12	2.720	I	O					1.49
44.083	0.00	2.12	2.705	I	O					1.48
44.167	0.00	2.11	2.691	I	O					1.47
44.250	0.00	2.11	2.676	I	O					1.47
44.333	0.00	2.11	2.662	I	O					1.46
44.417	0.00	2.10	2.647	I	O					1.45
44.500	0.00	2.10	2.633	I	O					1.44
44.583	0.00	2.10	2.618	I	O					1.44
44.667	0.00	2.10	2.604	I	O					1.43
44.750	0.00	2.09	2.590	I	O					1.42
44.833	0.00	2.09	2.575	I	O					1.42
44.917	0.00	2.09	2.561	I	O					1.41
45.000	0.00	2.08	2.546	I	O					1.40
45.083	0.00	2.08	2.532	I	O					1.40
45.167	0.00	2.08	2.518	I	O					1.39
45.250	0.00	2.07	2.503	I	O					1.38
45.333	0.00	2.07	2.489	I	O					1.38
45.417	0.00	2.07	2.475	I	O					1.37
45.500	0.00	2.07	2.461	I	O					1.36
45.583	0.00	2.06	2.446	I	O					1.36
45.667	0.00	2.06	2.432	I	O					1.35
45.750	0.00	2.06	2.418	I	O					1.34
45.833	0.00	2.05	2.404	I	O					1.34
45.917	0.00	2.05	2.390	I	O					1.33
46.000	0.00	2.05	2.376	I	O					1.32
46.083	0.00	2.05	2.362	I	O					1.32
46.167	0.00	2.04	2.347	I	O					1.31
46.250	0.00	2.04	2.333	I	O					1.30
46.333	0.00	2.04	2.319	I	O					1.30
46.417	0.00	2.03	2.305	I	O					1.29
46.500	0.00	2.03	2.291	I	O					1.28
46.583	0.00	2.03	2.277	I	O					1.28

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	2.03	2.263	I	O					1.27
46.750	0.00	2.02	2.249	I	O					1.26
46.833	0.00	2.02	2.235	I	O					1.26
46.917	0.00	2.02	2.222	I	O					1.25
47.000	0.00	2.01	2.208	I	O					1.24
47.083	0.00	2.01	2.194	I	O					1.24
47.167	0.00	2.01	2.180	I	O					1.23
47.250	0.00	2.01	2.166	I	O					1.22
47.333	0.00	2.00	2.152	I	O					1.22
47.417	0.00	2.00	2.139	I	O					1.21
47.500	0.00	2.00	2.125	I	O					1.20
47.583	0.00	2.00	2.111	I	O					1.20
47.667	0.00	1.99	2.097	I	O					1.19
47.750	0.00	1.99	2.084	I	O					1.18
47.833	0.00	1.99	2.070	I	O					1.18
47.917	0.00	1.98	2.056	I	O					1.17
48.000	0.00	1.98	2.043	I	O					1.17
48.083	0.00	1.98	2.029	I	O					1.16
48.167	0.00	1.98	2.015	I	O					1.15
48.250	0.00	1.97	2.002	I	O					1.15
48.333	0.00	1.97	1.988	I	O					1.14
48.417	0.00	1.97	1.975	I	O					1.13
48.500	0.00	1.96	1.961	I	O					1.13
48.583	0.00	1.96	1.948	I	O					1.12
48.667	0.00	1.96	1.934	I	O					1.11
48.750	0.00	1.96	1.921	I	O					1.11
48.833	0.00	1.95	1.907	I	O					1.10
48.917	0.00	1.95	1.894	I	O					1.09
49.000	0.00	1.95	1.880	I	O					1.09
49.083	0.00	1.95	1.867	I	O					1.08
49.167	0.00	1.94	1.853	I	O					1.08
49.250	0.00	1.94	1.840	I	O					1.07
49.333	0.00	1.94	1.827	I	O					1.06
49.417	0.00	1.93	1.813	I	O					1.06
49.500	0.00	1.93	1.800	I	O					1.05
49.583	0.00	1.93	1.787	I	O					1.04
49.667	0.00	1.93	1.773	I	O					1.04
49.750	0.00	1.92	1.760	I	O					1.03
49.833	0.00	1.92	1.747	I	O					1.03
49.917	0.00	1.92	1.734	I	O					1.02
50.000	0.00	1.92	1.721	I	O					1.01
50.083	0.00	1.91	1.707	I	O					1.01
50.167	0.00	1.91	1.694	I	O					1.00
50.250	0.00	1.90	1.681	I	O					0.99
50.333	0.00	1.88	1.668	I	O					0.99
50.417	0.00	1.87	1.655	I	O					0.98
50.500	0.00	1.85	1.642	I	O					0.97
50.583	0.00	1.84	1.630	I	O					0.96
50.667	0.00	1.82	1.617	I	O					0.96
50.750	0.00	1.81	1.605	I	O					0.95
50.833	0.00	1.80	1.592	I	O					0.94
50.917	0.00	1.78	1.580	I	O					0.93
51.000	0.00	1.77	1.568	I	O					0.93
51.083	0.00	1.75	1.555	I	O					0.92
51.167	0.00	1.74	1.543	I	O					0.91
51.250	0.00	1.73	1.531	I	O					0.90
51.333	0.00	1.71	1.520	I	O					0.90
51.417	0.00	1.70	1.508	I	O					0.89
51.500	0.00	1.69	1.496	I	O					0.88
51.583	0.00	1.67	1.485	I	O					0.88
51.667	0.00	1.66	1.473	I	O					0.87
51.750	0.00	1.65	1.462	I	O					0.86
51.833	0.00	1.64	1.450	I	O					0.86

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

51.917	0.00	1.62	1.439	I O					0.85
52.000	0.00	1.61	1.428	I O					0.84
52.083	0.00	1.60	1.417	I O					0.84
52.167	0.00	1.59	1.406	I O					0.83
52.250	0.00	1.57	1.395	I O					0.82
52.333	0.00	1.56	1.384	I O					0.82
52.417	0.00	1.55	1.374	I O					0.81
52.500	0.00	1.54	1.363	I O					0.81
52.583	0.00	1.53	1.352	I O					0.80
52.667	0.00	1.51	1.342	I O					0.79
52.750	0.00	1.50	1.332	I O					0.79
52.833	0.00	1.49	1.321	I O					0.78
52.917	0.00	1.48	1.311	I O					0.77
53.000	0.00	1.47	1.301	I O					0.77
53.083	0.00	1.46	1.291	I O					0.76
53.167	0.00	1.44	1.281	I O					0.76
53.250	0.00	1.43	1.271	I O					0.75
53.333	0.00	1.42	1.261	I O					0.74
53.417	0.00	1.41	1.251	I O					0.74
53.500	0.00	1.40	1.242	I O					0.73
53.583	0.00	1.39	1.232	I O					0.73
53.667	0.00	1.38	1.222	I O					0.72
53.750	0.00	1.37	1.213	I O					0.72
53.833	0.00	1.36	1.204	I O					0.71
53.917	0.00	1.35	1.194	I O					0.71
54.000	0.00	1.34	1.185	I O					0.70
54.083	0.00	1.33	1.176	I O					0.69
54.167	0.00	1.32	1.167	I O					0.69
54.250	0.00	1.31	1.158	I O					0.68
54.333	0.00	1.30	1.149	I O					0.68
54.417	0.00	1.29	1.140	I O					0.67
54.500	0.00	1.28	1.131	I O					0.67
54.583	0.00	1.27	1.122	I O					0.66
54.667	0.00	1.26	1.114	I O					0.66
54.750	0.00	1.25	1.105	I O					0.65
54.833	0.00	1.24	1.096	I O					0.65
54.917	0.00	1.23	1.088	I O					0.64
55.000	0.00	1.22	1.080	I O					0.64
55.083	0.00	1.21	1.071	I O					0.63
55.167	0.00	1.20	1.063	I O					0.63
55.250	0.00	1.19	1.055	I O					0.62
55.333	0.00	1.18	1.047	I O					0.62
55.417	0.00	1.17	1.038	I O					0.61
55.500	0.00	1.16	1.030	I O					0.61
55.583	0.00	1.15	1.022	I O					0.60
55.667	0.00	1.14	1.015	I O					0.60
55.750	0.00	1.14	1.007	I O					0.59
55.833	0.00	1.13	0.999	I O					0.59
55.917	0.00	1.12	0.991	I O					0.59
56.000	0.00	1.11	0.983	I O					0.58
56.083	0.00	1.10	0.976	I O					0.58
56.167	0.00	1.09	0.968	I O					0.57
56.250	0.00	1.08	0.961	IO					0.57
56.333	0.00	1.08	0.953	IO					0.56
56.417	0.00	1.07	0.946	IO					0.56
56.500	0.00	1.06	0.939	IO					0.55
56.583	0.00	1.05	0.931	IO					0.55
56.667	0.00	1.04	0.924	IO					0.55
56.750	0.00	1.03	0.917	IO					0.54
56.833	0.00	1.03	0.910	IO					0.54
56.917	0.00	1.02	0.903	IO					0.53
57.000	0.00	1.01	0.896	IO					0.53
57.083	0.00	1.00	0.889	IO					0.53

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	1.00	0.882	IO					0.52
57.250	0.00	0.99	0.875	IO					0.52
57.333	0.00	0.98	0.869	IO					0.51
57.417	0.00	0.97	0.862	IO					0.51
57.500	0.00	0.96	0.855	IO					0.51
57.583	0.00	0.96	0.848	IO					0.50
57.667	0.00	0.95	0.842	IO					0.50
57.750	0.00	0.94	0.835	IO					0.49
57.833	0.00	0.94	0.829	IO					0.49
57.917	0.00	0.93	0.823	IO					0.49
58.000	0.00	0.92	0.816	IO					0.48
58.083	0.00	0.91	0.810	IO					0.48
58.167	0.00	0.91	0.804	IO					0.47
58.250	0.00	0.90	0.797	IO					0.47
58.333	0.00	0.89	0.791	IO					0.47
58.417	0.00	0.89	0.785	IO					0.46
58.500	0.00	0.88	0.779	IO					0.46
58.583	0.00	0.87	0.773	IO					0.46
58.667	0.00	0.87	0.767	IO					0.45
58.750	0.00	0.86	0.761	IO					0.45
58.833	0.00	0.85	0.755	IO					0.45
58.917	0.00	0.85	0.749	IO					0.44
59.000	0.00	0.84	0.744	IO					0.44
59.083	0.00	0.83	0.738	IO					0.44
59.167	0.00	0.83	0.732	IO					0.43
59.250	0.00	0.82	0.726	IO					0.43
59.333	0.00	0.81	0.721	IO					0.43
59.417	0.00	0.81	0.715	IO					0.42
59.500	0.00	0.80	0.710	IO					0.42
59.583	0.00	0.79	0.704	IO					0.42
59.667	0.00	0.79	0.699	IO					0.41
59.750	0.00	0.78	0.693	IO					0.41
59.833	0.00	0.78	0.688	IO					0.41
59.917	0.00	0.77	0.683	IO					0.40
60.000	0.00	0.76	0.677	IO					0.40
60.083	0.00	0.76	0.672	IO					0.40
60.167	0.00	0.75	0.667	IO					0.39
60.250	0.00	0.75	0.662	IO					0.39
60.333	0.00	0.74	0.657	IO					0.39
60.417	0.00	0.74	0.652	IO					0.38
60.500	0.00	0.73	0.646	IO					0.38
60.583	0.00	0.72	0.641	IO					0.38
60.667	0.00	0.72	0.636	IO					0.38
60.750	0.00	0.71	0.632	IO					0.37
60.833	0.00	0.71	0.627	IO					0.37
60.917	0.00	0.70	0.622	IO					0.37
61.000	0.00	0.70	0.617	IO					0.36
61.083	0.00	0.69	0.612	IO					0.36
61.167	0.00	0.69	0.608	IO					0.36
61.250	0.00	0.68	0.603	IO					0.36
61.333	0.00	0.67	0.598	IO					0.35
61.417	0.00	0.67	0.594	IO					0.35
61.500	0.00	0.66	0.589	IO					0.35
61.583	0.00	0.66	0.584	IO					0.35
61.667	0.00	0.65	0.580	IO					0.34
61.750	0.00	0.65	0.575	IO					0.34
61.833	0.00	0.64	0.571	IO					0.34
61.917	0.00	0.64	0.566	IO					0.33
62.000	0.00	0.63	0.562	IO					0.33
62.083	0.00	0.63	0.558	IO					0.33
62.167	0.00	0.62	0.553	IO					0.33
62.250	0.00	0.62	0.549	IO					0.32
62.333	0.00	0.61	0.545	IO					0.32

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.61	0.541	IO					0.32
62.500	0.00	0.61	0.536	IO					0.32
62.583	0.00	0.60	0.532	IO					0.31
62.667	0.00	0.60	0.528	IO					0.31
62.750	0.00	0.59	0.524	IO					0.31
62.833	0.00	0.59	0.520	IO					0.31
62.917	0.00	0.58	0.516	IO					0.30
63.000	0.00	0.58	0.512	IO					0.30
63.083	0.00	0.57	0.508	IO					0.30
63.167	0.00	0.57	0.504	IO					0.30
63.250	0.00	0.56	0.500	IO					0.30
63.333	0.00	0.56	0.496	IO					0.29
63.417	0.00	0.56	0.493	IO					0.29
63.500	0.00	0.55	0.489	IO					0.29
63.583	0.00	0.55	0.485	IO					0.29
63.667	0.00	0.54	0.481	O					0.28
63.750	0.00	0.54	0.477	O					0.28
63.833	0.00	0.53	0.474	O					0.28
63.917	0.00	0.53	0.470	O					0.28
64.000	0.00	0.53	0.466	O					0.28
64.083	0.00	0.52	0.463	O					0.27
64.167	0.00	0.52	0.459	O					0.27
64.250	0.00	0.51	0.456	O					0.27
64.333	0.00	0.51	0.452	O					0.27
64.417	0.00	0.51	0.449	O					0.27
64.500	0.00	0.50	0.445	O					0.26
64.583	0.00	0.50	0.442	O					0.26
64.667	0.00	0.49	0.438	O					0.26
64.750	0.00	0.49	0.435	O					0.26
64.833	0.00	0.49	0.432	O					0.25
64.917	0.00	0.48	0.428	O					0.25
65.000	0.00	0.48	0.425	O					0.25
65.083	0.00	0.48	0.422	O					0.25
65.167	0.00	0.47	0.418	O					0.25
65.250	0.00	0.47	0.415	O					0.25
65.333	0.00	0.46	0.412	O					0.24
65.417	0.00	0.46	0.409	O					0.24
65.500	0.00	0.46	0.406	O					0.24
65.583	0.00	0.45	0.402	O					0.24
65.667	0.00	0.45	0.399	O					0.24
65.750	0.00	0.45	0.396	O					0.23
65.833	0.00	0.44	0.393	O					0.23
65.917	0.00	0.44	0.390	O					0.23
66.000	0.00	0.44	0.387	O					0.23
66.083	0.00	0.43	0.384	O					0.23
66.167	0.00	0.43	0.381	O					0.23
66.250	0.00	0.43	0.378	O					0.22
66.333	0.00	0.42	0.375	O					0.22
66.417	0.00	0.42	0.372	O					0.22
66.500	0.00	0.42	0.369	O					0.22
66.583	0.00	0.41	0.367	O					0.22
66.667	0.00	0.41	0.364	O					0.21
66.750	0.00	0.41	0.361	O					0.21
66.833	0.00	0.40	0.358	O					0.21
66.917	0.00	0.40	0.355	O					0.21
67.000	0.00	0.40	0.353	O					0.21
67.083	0.00	0.39	0.350	O					0.21
67.167	0.00	0.39	0.347	O					0.21
67.250	0.00	0.39	0.345	O					0.20
67.333	0.00	0.39	0.342	O					0.20
67.417	0.00	0.38	0.339	O					0.20
67.500	0.00	0.38	0.337	O					0.20
67.583	0.00	0.38	0.334	O					0.20

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.37	0.331	0					0.20
67.750	0.00	0.37	0.329	0					0.19
67.833	0.00	0.37	0.326	0					0.19
67.917	0.00	0.37	0.324	0					0.19
68.000	0.00	0.36	0.321	0					0.19
68.083	0.00	0.36	0.319	0					0.19
68.167	0.00	0.36	0.316	0					0.19
68.250	0.00	0.35	0.314	0					0.19
68.333	0.00	0.35	0.311	0					0.18
68.417	0.00	0.35	0.309	0					0.18
68.500	0.00	0.35	0.307	0					0.18
68.583	0.00	0.34	0.304	0					0.18
68.667	0.00	0.34	0.302	0					0.18
68.750	0.00	0.34	0.300	0					0.18
68.833	0.00	0.34	0.297	0					0.18
68.917	0.00	0.33	0.295	0					0.17
69.000	0.00	0.33	0.293	0					0.17
69.083	0.00	0.33	0.290	0					0.17
69.167	0.00	0.33	0.288	0					0.17
69.250	0.00	0.32	0.286	0					0.17
69.333	0.00	0.32	0.284	0					0.17
69.417	0.00	0.32	0.282	0					0.17
69.500	0.00	0.32	0.279	0					0.16
69.583	0.00	0.31	0.277	0					0.16
69.667	0.00	0.31	0.275	0					0.16
69.750	0.00	0.31	0.273	0					0.16
69.833	0.00	0.31	0.271	0					0.16
69.917	0.00	0.30	0.269	0					0.16
70.000	0.00	0.30	0.267	0					0.16
70.083	0.00	0.30	0.265	0					0.16
70.167	0.00	0.30	0.262	0					0.16
70.250	0.00	0.29	0.260	0					0.15
70.333	0.00	0.29	0.258	0					0.15
70.417	0.00	0.29	0.256	0					0.15
70.500	0.00	0.29	0.254	0					0.15
70.583	0.00	0.28	0.252	0					0.15
70.667	0.00	0.28	0.251	0					0.15
70.750	0.00	0.28	0.249	0					0.15
70.833	0.00	0.28	0.247	0					0.15
70.917	0.00	0.28	0.245	0					0.14
71.000	0.00	0.27	0.243	0					0.14
71.083	0.00	0.27	0.241	0					0.14
71.167	0.00	0.27	0.239	0					0.14
71.250	0.00	0.27	0.237	0					0.14
71.333	0.00	0.27	0.235	0					0.14
71.417	0.00	0.26	0.234	0					0.14
71.500	0.00	0.26	0.232	0					0.14
71.583	0.00	0.26	0.230	0					0.14
71.667	0.00	0.26	0.228	0					0.13
71.750	0.00	0.26	0.226	0					0.13
71.833	0.00	0.25	0.225	0					0.13
71.917	0.00	0.25	0.223	0					0.13
72.000	0.00	0.25	0.221	0					0.13
72.083	0.00	0.25	0.220	0					0.13
72.167	0.00	0.25	0.218	0					0.13
72.250	0.00	0.24	0.216	0					0.13
72.333	0.00	0.24	0.214	0					0.13
72.417	0.00	0.24	0.213	0					0.13
72.500	0.00	0.24	0.211	0					0.12
72.583	0.00	0.24	0.210	0					0.12
72.667	0.00	0.23	0.208	0					0.12
72.750	0.00	0.23	0.206	0					0.12
72.833	0.00	0.23	0.205	0					0.12

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.23	0.203	0					0.12
73.000	0.00	0.23	0.202	0					0.12
73.083	0.00	0.23	0.200	0					0.12
73.167	0.00	0.22	0.198	0					0.12
73.250	0.00	0.22	0.197	0					0.12
73.333	0.00	0.22	0.195	0					0.12
73.417	0.00	0.22	0.194	0					0.11
73.500	0.00	0.22	0.192	0					0.11
73.583	0.00	0.22	0.191	0					0.11
73.667	0.00	0.21	0.189	0					0.11
73.750	0.00	0.21	0.188	0					0.11
73.833	0.00	0.21	0.186	0					0.11
73.917	0.00	0.21	0.185	0					0.11
74.000	0.00	0.21	0.184	0					0.11
74.083	0.00	0.21	0.182	0					0.11
74.167	0.00	0.20	0.181	0					0.11
74.250	0.00	0.20	0.179	0					0.11
74.333	0.00	0.20	0.178	0					0.11
74.417	0.00	0.20	0.177	0					0.10
74.500	0.00	0.20	0.175	0					0.10
74.583	0.00	0.20	0.174	0					0.10
74.667	0.00	0.19	0.173	0					0.10
74.750	0.00	0.19	0.171	0					0.10
74.833	0.00	0.19	0.170	0					0.10
74.917	0.00	0.19	0.169	0					0.10
75.000	0.00	0.19	0.167	0					0.10
75.083	0.00	0.19	0.166	0					0.10
75.167	0.00	0.19	0.165	0					0.10
75.250	0.00	0.18	0.163	0					0.10
75.333	0.00	0.18	0.162	0					0.10
75.417	0.00	0.18	0.161	0					0.10
75.500	0.00	0.18	0.160	0					0.09
75.583	0.00	0.18	0.158	0					0.09
75.667	0.00	0.18	0.157	0					0.09
75.750	0.00	0.18	0.156	0					0.09
75.833	0.00	0.17	0.155	0					0.09
75.917	0.00	0.17	0.154	0					0.09
76.000	0.00	0.17	0.152	0					0.09
76.083	0.00	0.17	0.151	0					0.09
76.167	0.00	0.17	0.150	0					0.09
76.250	0.00	0.17	0.149	0					0.09
76.333	0.00	0.17	0.148	0					0.09
76.417	0.00	0.17	0.147	0					0.09
76.500	0.00	0.16	0.145	0					0.09
76.583	0.00	0.16	0.144	0					0.09
76.667	0.00	0.16	0.143	0					0.08
76.750	0.00	0.16	0.142	0					0.08
76.833	0.00	0.16	0.141	0					0.08
76.917	0.00	0.16	0.140	0					0.08
77.000	0.00	0.16	0.139	0					0.08
77.083	0.00	0.16	0.138	0					0.08
77.167	0.00	0.15	0.137	0					0.08
77.250	0.00	0.15	0.136	0					0.08
77.333	0.00	0.15	0.135	0					0.08
77.417	0.00	0.15	0.134	0					0.08
77.500	0.00	0.15	0.132	0					0.08
77.583	0.00	0.15	0.131	0					0.08
77.667	0.00	0.15	0.130	0					0.08
77.750	0.00	0.15	0.129	0					0.08
77.833	0.00	0.14	0.128	0					0.08
77.917	0.00	0.14	0.127	0					0.08
78.000	0.00	0.14	0.126	0					0.07
78.083	0.00	0.14	0.125	0					0.07



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.14	0.125	0					0.07
78.250	0.00	0.14	0.124	0					0.07
78.333	0.00	0.14	0.123	0					0.07
78.417	0.00	0.14	0.122	0					0.07
78.500	0.00	0.14	0.121	0					0.07
78.583	0.00	0.14	0.120	0					0.07
78.667	0.00	0.13	0.119	0					0.07
78.750	0.00	0.13	0.118	0					0.07
78.833	0.00	0.13	0.117	0					0.07
78.917	0.00	0.13	0.116	0					0.07
79.000	0.00	0.13	0.115	0					0.07
79.083	0.00	0.13	0.114	0					0.07
79.167	0.00	0.13	0.113	0					0.07
79.250	0.00	0.13	0.113	0					0.07
79.333	0.00	0.13	0.112	0					0.07
79.417	0.00	0.13	0.111	0					0.07
79.500	0.00	0.12	0.110	0					0.06
79.583	0.00	0.12	0.109	0					0.06
79.667	0.00	0.12	0.108	0					0.06
79.750	0.00	0.12	0.107	0					0.06
79.833	0.00	0.12	0.107	0					0.06
79.917	0.00	0.12	0.106	0					0.06
80.000	0.00	0.12	0.105	0					0.06
80.083	0.00	0.12	0.104	0					0.06
80.167	0.00	0.12	0.103	0					0.06
80.250	0.00	0.12	0.103	0					0.06
80.333	0.00	0.11	0.102	0					0.06
80.417	0.00	0.11	0.101	0					0.06
80.500	0.00	0.11	0.100	0					0.06
80.583	0.00	0.11	0.099	0					0.06
80.667	0.00	0.11	0.099	0					0.06
80.750	0.00	0.11	0.098	0					0.06
80.833	0.00	0.11	0.097	0					0.06
80.917	0.00	0.11	0.096	0					0.06
81.000	0.00	0.11	0.096	0					0.06
81.083	0.00	0.11	0.095	0					0.06
81.167	0.00	0.11	0.094	0					0.06
81.250	0.00	0.11	0.093	0					0.06
81.333	0.00	0.10	0.093	0					0.05
81.417	0.00	0.10	0.092	0					0.05
81.500	0.00	0.10	0.091	0					0.05
81.583	0.00	0.10	0.091	0					0.05
81.667	0.00	0.10	0.090	0					0.05
81.750	0.00	0.10	0.089	0					0.05
81.833	0.00	0.10	0.088	0					0.05
81.917	0.00	0.10	0.088	0					0.05
82.000	0.00	0.10	0.087	0					0.05
82.083	0.00	0.10	0.086	0					0.05
82.167	0.00	0.10	0.086	0					0.05
82.250	0.00	0.10	0.085	0					0.05
82.333	0.00	0.10	0.084	0					0.05
82.417	0.00	0.09	0.084	0					0.05
82.500	0.00	0.09	0.083	0					0.05
82.583	0.00	0.09	0.082	0					0.05
82.667	0.00	0.09	0.082	0					0.05
82.750	0.00	0.09	0.081	0					0.05
82.833	0.00	0.09	0.081	0					0.05
82.917	0.00	0.09	0.080	0					0.05
83.000	0.00	0.09	0.079	0					0.05
83.083	0.00	0.09	0.079	0					0.05
83.167	0.00	0.09	0.078	0					0.05
83.250	0.00	0.09	0.078	0					0.05
83.333	0.00	0.09	0.077	0					0.05

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### ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.09	0.076	0					0.05
83.500	0.00	0.09	0.076	0					0.04
83.583	0.00	0.08	0.075	0					0.04
83.667	0.00	0.08	0.075	0					0.04
83.750	0.00	0.08	0.074	0					0.04
83.833	0.00	0.08	0.073	0					0.04
83.917	0.00	0.08	0.073	0					0.04
84.000	0.00	0.08	0.072	0					0.04
84.083	0.00	0.08	0.072	0					0.04
84.167	0.00	0.08	0.071	0					0.04
84.250	0.00	0.08	0.071	0					0.04
84.333	0.00	0.08	0.070	0					0.04
84.417	0.00	0.08	0.070	0					0.04
84.500	0.00	0.08	0.069	0					0.04
84.583	0.00	0.08	0.068	0					0.04
84.667	0.00	0.08	0.068	0					0.04
84.750	0.00	0.08	0.067	0					0.04
84.833	0.00	0.08	0.067	0					0.04
84.917	0.00	0.07	0.066	0					0.04
85.000	0.00	0.07	0.066	0					0.04
85.083	0.00	0.07	0.065	0					0.04
85.167	0.00	0.07	0.065	0					0.04
85.250	0.00	0.07	0.064	0					0.04
85.333	0.00	0.07	0.064	0					0.04
85.417	0.00	0.07	0.063	0					0.04
85.500	0.00	0.07	0.063	0					0.04
85.583	0.00	0.07	0.062	0					0.04
85.667	0.00	0.07	0.062	0					0.04
85.750	0.00	0.07	0.061	0					0.04
85.833	0.00	0.07	0.061	0					0.04
85.917	0.00	0.07	0.060	0					0.04
86.000	0.00	0.07	0.060	0					0.04
86.083	0.00	0.07	0.060	0					0.04
86.167	0.00	0.07	0.059	0					0.03
86.250	0.00	0.07	0.059	0					0.03
86.333	0.00	0.07	0.058	0					0.03
86.417	0.00	0.07	0.058	0					0.03
86.500	0.00	0.06	0.057	0					0.03
86.583	0.00	0.06	0.057	0					0.03
86.667	0.00	0.06	0.056	0					0.03
86.750	0.00	0.06	0.056	0					0.03
86.833	0.00	0.06	0.055	0					0.03
86.917	0.00	0.06	0.055	0					0.03
87.000	0.00	0.06	0.055	0					0.03
87.083	0.00	0.06	0.054	0					0.03
87.167	0.00	0.06	0.054	0					0.03
87.250	0.00	0.06	0.053	0					0.03
87.333	0.00	0.06	0.053	0					0.03
87.417	0.00	0.06	0.053	0					0.03
87.500	0.00	0.06	0.052	0					0.03
87.583	0.00	0.06	0.052	0					0.03
87.667	0.00	0.06	0.051	0					0.03
87.750	0.00	0.06	0.051	0					0.03
87.833	0.00	0.06	0.051	0					0.03
87.917	0.00	0.06	0.050	0					0.03
88.000	0.00	0.06	0.050	0					0.03
88.083	0.00	0.06	0.049	0					0.03
88.167	0.00	0.06	0.049	0					0.03
88.250	0.00	0.05	0.049	0					0.03
88.333	0.00	0.05	0.048	0					0.03
88.417	0.00	0.05	0.048	0					0.03
88.500	0.00	0.05	0.048	0					0.03
88.583	0.00	0.05	0.047	0					0.03

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.05	0.047	o					0.03
88.750	0.00	0.05	0.046	o					0.03
88.833	0.00	0.05	0.046	o					0.03
88.917	0.00	0.05	0.046	o					0.03
89.000	0.00	0.05	0.045	o					0.03
89.083	0.00	0.05	0.045	o					0.03
89.167	0.00	0.05	0.045	o					0.03
89.250	0.00	0.05	0.044	o					0.03
89.333	0.00	0.05	0.044	o					0.03
89.417	0.00	0.05	0.044	o					0.03
89.500	0.00	0.05	0.043	o					0.03
89.583	0.00	0.05	0.043	o					0.03
89.667	0.00	0.05	0.043	o					0.03
89.750	0.00	0.05	0.042	o					0.02
89.833	0.00	0.05	0.042	o					0.02
89.917	0.00	0.05	0.042	o					0.02
90.000	0.00	0.05	0.041	o					0.02
90.083	0.00	0.05	0.041	o					0.02
90.167	0.00	0.05	0.041	o					0.02
90.250	0.00	0.05	0.040	o					0.02
90.333	0.00	0.05	0.040	o					0.02
90.417	0.00	0.04	0.040	o					0.02
90.500	0.00	0.04	0.039	o					0.02
90.583	0.00	0.04	0.039	o					0.02
90.667	0.00	0.04	0.039	o					0.02
90.750	0.00	0.04	0.039	o					0.02
90.833	0.00	0.04	0.038	o					0.02
90.917	0.00	0.04	0.038	o					0.02
91.000	0.00	0.04	0.038	o					0.02
91.083	0.00	0.04	0.037	o					0.02
91.167	0.00	0.04	0.037	o					0.02
91.250	0.00	0.04	0.037	o					0.02
91.333	0.00	0.04	0.036	o					0.02
91.417	0.00	0.04	0.036	o					0.02
91.500	0.00	0.04	0.036	o					0.02
91.583	0.00	0.04	0.036	o					0.02
91.667	0.00	0.04	0.035	o					0.02
91.750	0.00	0.04	0.035	o					0.02
91.833	0.00	0.04	0.035	o					0.02
91.917	0.00	0.04	0.035	o					0.02
92.000	0.00	0.04	0.034	o					0.02
92.083	0.00	0.04	0.034	o					0.02
92.167	0.00	0.04	0.034	o					0.02
92.250	0.00	0.04	0.033	o					0.02
92.333	0.00	0.04	0.033	o					0.02
92.417	0.00	0.04	0.033	o					0.02
92.500	0.00	0.04	0.033	o					0.02
92.583	0.00	0.04	0.032	o					0.02
92.667	0.00	0.04	0.032	o					0.02
92.750	0.00	0.04	0.032	o					0.02
92.833	0.00	0.04	0.032	o					0.02
92.917	0.00	0.04	0.031	o					0.02
93.000	0.00	0.04	0.031	o					0.02
93.083	0.00	0.03	0.031	o					0.02
93.167	0.00	0.03	0.031	o					0.02
93.250	0.00	0.03	0.031	o					0.02
93.333	0.00	0.03	0.030	o					0.02
93.417	0.00	0.03	0.030	o					0.02
93.500	0.00	0.03	0.030	o					0.02
93.583	0.00	0.03	0.030	o					0.02
93.667	0.00	0.03	0.029	o					0.02
93.750	0.00	0.03	0.029	o					0.02
93.833	0.00	0.03	0.029	o					0.02

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## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.03	0.029	o					0.02
94.000	0.00	0.03	0.028	o					0.02
94.083	0.00	0.03	0.028	o					0.02
94.167	0.00	0.03	0.028	o					0.02
94.250	0.00	0.03	0.028	o					0.02
94.333	0.00	0.03	0.028	o					0.02
94.417	0.00	0.03	0.027	o					0.02
94.500	0.00	0.03	0.027	o					0.02
94.583	0.00	0.03	0.027	o					0.02
94.667	0.00	0.03	0.027	o					0.02
94.750	0.00	0.03	0.027	o					0.02
94.833	0.00	0.03	0.026	o					0.02
94.917	0.00	0.03	0.026	o					0.02
95.000	0.00	0.03	0.026	o					0.02
95.083	0.00	0.03	0.026	o					0.02
95.167	0.00	0.03	0.026	o					0.02
95.250	0.00	0.03	0.025	o					0.01
95.333	0.00	0.03	0.025	o					0.01
95.417	0.00	0.03	0.025	o					0.01
95.500	0.00	0.03	0.025	o					0.01
95.583	0.00	0.03	0.025	o					0.01
95.667	0.00	0.03	0.024	o					0.01
95.750	0.00	0.03	0.024	o					0.01
95.833	0.00	0.03	0.024	o					0.01
95.917	0.00	0.03	0.024	o					0.01
96.000	0.00	0.03	0.024	o					0.01
96.083	0.00	0.03	0.023	o					0.01
96.167	0.00	0.03	0.023	o					0.01
96.250	0.00	0.03	0.023	o					0.01
96.333	0.00	0.03	0.023	o					0.01
96.417	0.00	0.03	0.023	o					0.01
96.500	0.00	0.03	0.023	o					0.01
96.583	0.00	0.03	0.022	o					0.01
96.667	0.00	0.03	0.022	o					0.01
96.750	0.00	0.02	0.022	o					0.01
96.833	0.00	0.02	0.022	o					0.01
96.917	0.00	0.02	0.022	o					0.01
97.000	0.00	0.02	0.022	o					0.01
97.083	0.00	0.02	0.021	o					0.01
97.167	0.00	0.02	0.021	o					0.01
97.250	0.00	0.02	0.021	o					0.01
97.333	0.00	0.02	0.021	o					0.01
97.417	0.00	0.02	0.021	o					0.01
97.500	0.00	0.02	0.021	o					0.01
97.583	0.00	0.02	0.020	o					0.01
97.667	0.00	0.02	0.020	o					0.01
97.750	0.00	0.02	0.020	o					0.01
97.833	0.00	0.02	0.020	o					0.01
97.917	0.00	0.02	0.020	o					0.01
98.000	0.00	0.02	0.020	o					0.01
98.083	0.00	0.02	0.019	o					0.01
98.167	0.00	0.02	0.019	o					0.01
98.250	0.00	0.02	0.019	o					0.01
98.333	0.00	0.02	0.019	o					0.01
98.417	0.00	0.02	0.019	o					0.01
98.500	0.00	0.02	0.019	o					0.01
98.583	0.00	0.02	0.019	o					0.01
98.667	0.00	0.02	0.018	o					0.01
98.750	0.00	0.02	0.018	o					0.01
98.833	0.00	0.02	0.018	o					0.01
98.917	0.00	0.02	0.018	o					0.01
99.000	0.00	0.02	0.018	o					0.01
99.083	0.00	0.02	0.018	o					0.01

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### ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.02	0.018	o					0.01
99.250	0.00	0.02	0.017	o					0.01
99.333	0.00	0.02	0.017	o					0.01
99.417	0.00	0.02	0.017	o					0.01
99.500	0.00	0.02	0.017	o					0.01
99.583	0.00	0.02	0.017	o					0.01
99.667	0.00	0.02	0.017	o					0.01
99.750	0.00	0.02	0.017	o					0.01
99.833	0.00	0.02	0.017	o					0.01
99.917	0.00	0.02	0.016	o					0.01
100.000	0.00	0.02	0.016	o					0.01
100.083	0.00	0.02	0.016	o					0.01
100.167	0.00	0.02	0.016	o					0.01
100.250	0.00	0.02	0.016	o					0.01
100.333	0.00	0.02	0.016	o					0.01
100.417	0.00	0.02	0.016	o					0.01
100.500	0.00	0.02	0.016	o					0.01
100.583	0.00	0.02	0.015	o					0.01
100.667	0.00	0.02	0.015	o					0.01
100.750	0.00	0.02	0.015	o					0.01
100.833	0.00	0.02	0.015	o					0.01
100.917	0.00	0.02	0.015	o					0.01
101.000	0.00	0.02	0.015	o					0.01
101.083	0.00	0.02	0.015	o					0.01
101.167	0.00	0.02	0.015	o					0.01
101.250	0.00	0.02	0.014	o					0.01
101.333	0.00	0.02	0.014	o					0.01
101.417	0.00	0.02	0.014	o					0.01
101.500	0.00	0.02	0.014	o					0.01
101.583	0.00	0.02	0.014	o					0.01
101.667	0.00	0.02	0.014	o					0.01
101.750	0.00	0.02	0.014	o					0.01
101.833	0.00	0.02	0.014	o					0.01
101.917	0.00	0.02	0.014	o					0.01
102.000	0.00	0.02	0.013	o					0.01
102.083	0.00	0.02	0.013	o					0.01
102.167	0.00	0.01	0.013	o					0.01
102.250	0.00	0.01	0.013	o					0.01
102.333	0.00	0.01	0.013	o					0.01
102.417	0.00	0.01	0.013	o					0.01
102.500	0.00	0.01	0.013	o					0.01
102.583	0.00	0.01	0.013	o					0.01
102.667	0.00	0.01	0.013	o					0.01
102.750	0.00	0.01	0.013	o					0.01
102.833	0.00	0.01	0.012	o					0.01
102.917	0.00	0.01	0.012	o					0.01
103.000	0.00	0.01	0.012	o					0.01
103.083	0.00	0.01	0.012	o					0.01
103.167	0.00	0.01	0.012	o					0.01
103.250	0.00	0.01	0.012	o					0.01
103.333	0.00	0.01	0.012	o					0.01
103.417	0.00	0.01	0.012	o					0.01
103.500	0.00	0.01	0.012	o					0.01
103.583	0.00	0.01	0.012	o					0.01
103.667	0.00	0.01	0.012	o					0.01
103.750	0.00	0.01	0.011	o					0.01
103.833	0.00	0.01	0.011	o					0.01
103.917	0.00	0.01	0.011	o					0.01
104.000	0.00	0.01	0.011	o					0.01
104.083	0.00	0.01	0.011	o					0.01
104.167	0.00	0.01	0.011	o					0.01
104.250	0.00	0.01	0.011	o					0.01
104.333	0.00	0.01	0.011	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.01	0.011	o					0.01
104.500	0.00	0.01	0.011	o					0.01
104.583	0.00	0.01	0.011	o					0.01
104.667	0.00	0.01	0.011	o					0.01
104.750	0.00	0.01	0.010	o					0.01
104.833	0.00	0.01	0.010	o					0.01
104.917	0.00	0.01	0.010	o					0.01
105.000	0.00	0.01	0.010	o					0.01
105.083	0.00	0.01	0.010	o					0.01
105.167	0.00	0.01	0.010	o					0.01
105.250	0.00	0.01	0.010	o					0.01
105.333	0.00	0.01	0.010	o					0.01
105.417	0.00	0.01	0.010	o					0.01
105.500	0.00	0.01	0.010	o					0.01
105.583	0.00	0.01	0.010	o					0.01
105.667	0.00	0.01	0.010	o					0.01
105.750	0.00	0.01	0.010	o					0.01
105.833	0.00	0.01	0.009	o					0.01
105.917	0.00	0.01	0.009	o					0.01
106.000	0.00	0.01	0.009	o					0.01
106.083	0.00	0.01	0.009	o					0.01
106.167	0.00	0.01	0.009	o					0.01
106.250	0.00	0.01	0.009	o					0.01
106.333	0.00	0.01	0.009	o					0.01
106.417	0.00	0.01	0.009	o					0.01
106.500	0.00	0.01	0.009	o					0.01
106.583	0.00	0.01	0.009	o					0.01
106.667	0.00	0.01	0.009	o					0.01
106.750	0.00	0.01	0.009	o					0.01
106.833	0.00	0.01	0.009	o					0.01
106.917	0.00	0.01	0.009	o					0.01
107.000	0.00	0.01	0.008	o					0.01
107.083	0.00	0.01	0.008	o					0.00
107.167	0.00	0.01	0.008	o					0.00
107.250	0.00	0.01	0.008	o					0.00
107.333	0.00	0.01	0.008	o					0.00
107.417	0.00	0.01	0.008	o					0.00
107.500	0.00	0.01	0.008	o					0.00
107.583	0.00	0.01	0.008	o					0.00
107.667	0.00	0.01	0.008	o					0.00
107.750	0.00	0.01	0.008	o					0.00
107.833	0.00	0.01	0.008	o					0.00
107.917	0.00	0.01	0.008	o					0.00
108.000	0.00	0.01	0.008	o					0.00
108.083	0.00	0.01	0.008	o					0.00
108.167	0.00	0.01	0.008	o					0.00
108.250	0.00	0.01	0.008	o					0.00
108.333	0.00	0.01	0.007	o					0.00
108.417	0.00	0.01	0.007	o					0.00
108.500	0.00	0.01	0.007	o					0.00
108.583	0.00	0.01	0.007	o					0.00
108.667	0.00	0.01	0.007	o					0.00
108.750	0.00	0.01	0.007	o					0.00
108.833	0.00	0.01	0.007	o					0.00
108.917	0.00	0.01	0.007	o					0.00
109.000	0.00	0.01	0.007	o					0.00
109.083	0.00	0.01	0.007	o					0.00
109.167	0.00	0.01	0.007	o					0.00
109.250	0.00	0.01	0.007	o					0.00
109.333	0.00	0.01	0.007	o					0.00
109.417	0.00	0.01	0.007	o					0.00
109.500	0.00	0.01	0.007	o					0.00
109.583	0.00	0.01	0.007	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.01	0.007	o					0.00
109.750	0.00	0.01	0.007	o					0.00
109.833	0.00	0.01	0.006	o					0.00
109.917	0.00	0.01	0.006	o					0.00
110.000	0.00	0.01	0.006	o					0.00
110.083	0.00	0.01	0.006	o					0.00
110.167	0.00	0.01	0.006	o					0.00
110.250	0.00	0.01	0.006	o					0.00
110.333	0.00	0.01	0.006	o					0.00
110.417	0.00	0.01	0.006	o					0.00
110.500	0.00	0.01	0.006	o					0.00
110.583	0.00	0.01	0.006	o					0.00
110.667	0.00	0.01	0.006	o					0.00
110.750	0.00	0.01	0.006	o					0.00
110.833	0.00	0.01	0.006	o					0.00
110.917	0.00	0.01	0.006	o					0.00
111.000	0.00	0.01	0.006	o					0.00
111.083	0.00	0.01	0.006	o					0.00
111.167	0.00	0.01	0.006	o					0.00
111.250	0.00	0.01	0.006	o					0.00
111.333	0.00	0.01	0.006	o					0.00
111.417	0.00	0.01	0.006	o					0.00
111.500	0.00	0.01	0.006	o					0.00
111.583	0.00	0.01	0.006	o					0.00
111.667	0.00	0.01	0.005	o					0.00
111.750	0.00	0.01	0.005	o					0.00
111.833	0.00	0.01	0.005	o					0.00
111.917	0.00	0.01	0.005	o					0.00
112.000	0.00	0.01	0.005	o					0.00
112.083	0.00	0.01	0.005	o					0.00
112.167	0.00	0.01	0.005	o					0.00
112.250	0.00	0.01	0.005	o					0.00
112.333	0.00	0.01	0.005	o					0.00
112.417	0.00	0.01	0.005	o					0.00
112.500	0.00	0.01	0.005	o					0.00
112.583	0.00	0.01	0.005	o					0.00
112.667	0.00	0.01	0.005	o					0.00
112.750	0.00	0.01	0.005	o					0.00
112.833	0.00	0.01	0.005	o					0.00
112.917	0.00	0.01	0.005	o					0.00
113.000	0.00	0.01	0.005	o					0.00
113.083	0.00	0.01	0.005	o					0.00
113.167	0.00	0.01	0.005	o					0.00
113.250	0.00	0.01	0.005	o					0.00
113.333	0.00	0.01	0.005	o					0.00
113.417	0.00	0.01	0.005	o					0.00
113.500	0.00	0.01	0.005	o					0.00
113.583	0.00	0.01	0.005	o					0.00
113.667	0.00	0.01	0.005	o					0.00
113.750	0.00	0.01	0.005	o					0.00
113.833	0.00	0.01	0.004	o					0.00
113.917	0.00	0.01	0.004	o					0.00
114.000	0.00	0.00	0.004	o					0.00
114.083	0.00	0.00	0.004	o					0.00
114.167	0.00	0.00	0.004	o					0.00
114.250	0.00	0.00	0.004	o					0.00
114.333	0.00	0.00	0.004	o					0.00
114.417	0.00	0.00	0.004	o					0.00
114.500	0.00	0.00	0.004	o					0.00
114.583	0.00	0.00	0.004	o					0.00
114.667	0.00	0.00	0.004	o					0.00
114.750	0.00	0.00	0.004	o					0.00
114.833	0.00	0.00	0.004	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

114.917	0.00	0.00	0.004	o					0.00
115.000	0.00	0.00	0.004	o					0.00
115.083	0.00	0.00	0.004	o					0.00
115.167	0.00	0.00	0.004	o					0.00
115.250	0.00	0.00	0.004	o					0.00
115.333	0.00	0.00	0.004	o					0.00
115.417	0.00	0.00	0.004	o					0.00
115.500	0.00	0.00	0.004	o					0.00
115.583	0.00	0.00	0.004	o					0.00
115.667	0.00	0.00	0.004	o					0.00
115.750	0.00	0.00	0.004	o					0.00
115.833	0.00	0.00	0.004	o					0.00
115.917	0.00	0.00	0.004	o					0.00
116.000	0.00	0.00	0.004	o					0.00
116.083	0.00	0.00	0.004	o					0.00
116.167	0.00	0.00	0.004	o					0.00
116.250	0.00	0.00	0.004	o					0.00
116.333	0.00	0.00	0.004	o					0.00
116.417	0.00	0.00	0.004	o					0.00
116.500	0.00	0.00	0.003	o					0.00
116.583	0.00	0.00	0.003	o					0.00
116.667	0.00	0.00	0.003	o					0.00
116.750	0.00	0.00	0.003	o					0.00
116.833	0.00	0.00	0.003	o					0.00
116.917	0.00	0.00	0.003	o					0.00
117.000	0.00	0.00	0.003	o					0.00
117.083	0.00	0.00	0.003	o					0.00
117.167	0.00	0.00	0.003	o					0.00
117.250	0.00	0.00	0.003	o					0.00
117.333	0.00	0.00	0.003	o					0.00
117.417	0.00	0.00	0.003	o					0.00
117.500	0.00	0.00	0.003	o					0.00
117.583	0.00	0.00	0.003	o					0.00
117.667	0.00	0.00	0.003	o					0.00
117.750	0.00	0.00	0.003	o					0.00
117.833	0.00	0.00	0.003	o					0.00
117.917	0.00	0.00	0.003	o					0.00
118.000	0.00	0.00	0.003	o					0.00
118.083	0.00	0.00	0.003	o					0.00
118.167	0.00	0.00	0.003	o					0.00
118.250	0.00	0.00	0.003	o					0.00
118.333	0.00	0.00	0.003	o					0.00
118.417	0.00	0.00	0.003	o					0.00
118.500	0.00	0.00	0.003	o					0.00
118.583	0.00	0.00	0.003	o					0.00
118.667	0.00	0.00	0.003	o					0.00
118.750	0.00	0.00	0.003	o					0.00
118.833	0.00	0.00	0.003	o					0.00
118.917	0.00	0.00	0.003	o					0.00
119.000	0.00	0.00	0.003	o					0.00
119.083	0.00	0.00	0.003	o					0.00
119.167	0.00	0.00	0.003	o					0.00
119.250	0.00	0.00	0.003	o					0.00
119.333	0.00	0.00	0.003	o					0.00
119.417	0.00	0.00	0.003	o					0.00
119.500	0.00	0.00	0.003	o					0.00
119.583	0.00	0.00	0.003	o					0.00
119.667	0.00	0.00	0.003	o					0.00
119.750	0.00	0.00	0.003	o					0.00
119.833	0.00	0.00	0.003	o					0.00
119.917	0.00	0.00	0.003	o					0.00
120.000	0.00	0.00	0.003	o					0.00
120.083	0.00	0.00	0.002	o					0.00



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

120.167	0.00	0.00	0.002	o					0.00
120.250	0.00	0.00	0.002	o					0.00
120.333	0.00	0.00	0.002	o					0.00
120.417	0.00	0.00	0.002	o					0.00
120.500	0.00	0.00	0.002	o					0.00
120.583	0.00	0.00	0.002	o					0.00
120.667	0.00	0.00	0.002	o					0.00
120.750	0.00	0.00	0.002	o					0.00
120.833	0.00	0.00	0.002	o					0.00
120.917	0.00	0.00	0.002	o					0.00
121.000	0.00	0.00	0.002	o					0.00
121.083	0.00	0.00	0.002	o					0.00
121.167	0.00	0.00	0.002	o					0.00
121.250	0.00	0.00	0.002	o					0.00
121.333	0.00	0.00	0.002	o					0.00
121.417	0.00	0.00	0.002	o					0.00
121.500	0.00	0.00	0.002	o					0.00
121.583	0.00	0.00	0.002	o					0.00
121.667	0.00	0.00	0.002	o					0.00
121.750	0.00	0.00	0.002	o					0.00
121.833	0.00	0.00	0.002	o					0.00
121.917	0.00	0.00	0.002	o					0.00
122.000	0.00	0.00	0.002	o					0.00
122.083	0.00	0.00	0.002	o					0.00
122.167	0.00	0.00	0.002	o					0.00
122.250	0.00	0.00	0.002	o					0.00
122.333	0.00	0.00	0.002	o					0.00
122.417	0.00	0.00	0.002	o					0.00
122.500	0.00	0.00	0.002	o					0.00
122.583	0.00	0.00	0.002	o					0.00
122.667	0.00	0.00	0.002	o					0.00
122.750	0.00	0.00	0.002	o					0.00
122.833	0.00	0.00	0.002	o					0.00
122.917	0.00	0.00	0.002	o					0.00
123.000	0.00	0.00	0.002	o					0.00
123.083	0.00	0.00	0.002	o					0.00
123.167	0.00	0.00	0.002	o					0.00
123.250	0.00	0.00	0.002	o					0.00
123.333	0.00	0.00	0.002	o					0.00
123.417	0.00	0.00	0.002	o					0.00
123.500	0.00	0.00	0.002	o					0.00
123.583	0.00	0.00	0.002	o					0.00
123.667	0.00	0.00	0.002	o					0.00
123.750	0.00	0.00	0.002	o					0.00
123.833	0.00	0.00	0.002	o					0.00
123.917	0.00	0.00	0.002	o					0.00
124.000	0.00	0.00	0.002	o					0.00
124.083	0.00	0.00	0.002	o					0.00
124.167	0.00	0.00	0.002	o					0.00
124.250	0.00	0.00	0.002	o					0.00
124.333	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*

Number of intervals = 1492

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 2.809 (CFS)

Total volume = 10.633 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1 Stream 2 Stream 3 Stream 4 Stream 5

Keller Crossing – Tract 38163  
ATTACHMENT E – Detention Basin Routing

Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 5-year 1-hour storm  
 -----

Program License Serial Number 4029

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 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx5prh15.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 18  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 125.377 (CFS)  
 Total volume = 4.315 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 18  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	31.3	62.69	94.03	125.38	Depth (Ft.)
0.083	5.73	0.02	0.020	OI					0.01
0.167	17.30	0.11	0.099	O	I				0.06
0.250	21.91	0.26	0.232	O	I				0.14
0.333	25.76	0.44	0.394	O	I				0.23
0.417	27.64	0.65	0.574	O	I				0.34
0.500	30.12	0.87	0.768	O	I				0.45
0.583	35.45	1.11	0.987	O	I				0.58
0.667	44.15	1.41	1.252	O	I				0.74
0.750	58.84	1.80	1.596	O	I	I			0.94
0.833	103.50	2.00	2.142	O			I		1.21
0.917	125.38	2.16	2.915	O				I	1.58
1.000	63.97	2.29	3.552	O		I			1.88
1.083	35.87	2.35	3.880	O	I				2.03
1.167	15.76	2.37	4.042	O	I				2.09
1.250	8.55	2.38	4.109	O	I				2.11
1.333	4.99	2.39	4.139	O	I				2.12
1.417	1.26	2.39	4.144	O					2.12
1.500	0.42	2.38	4.133	O					2.12
1.583	0.00	2.38	4.119	O					2.11
1.667	0.00	2.38	4.102	O					2.11
1.750	0.00	2.38	4.086	O					2.10
1.833	0.00	2.38	4.069	O					2.10
1.917	0.00	2.37	4.053	O					2.09
2.000	0.00	2.37	4.037	O					2.08
2.083	0.00	2.37	4.020	O					2.08
2.167	0.00	2.37	4.004	O					2.07
2.250	0.00	2.36	3.988	O					2.07
2.333	0.00	2.36	3.971	O					2.06
2.417	0.00	2.36	3.955	O					2.05
2.500	0.00	2.36	3.939	O					2.05
2.583	0.00	2.36	3.923	O					2.04
2.667	0.00	2.35	3.907	O					2.04
2.750	0.00	2.35	3.890	O					2.03
2.833	0.00	2.35	3.874	O					2.02
2.917	0.00	2.35	3.858	O					2.02
3.000	0.00	2.34	3.842	O					2.01
3.083	0.00	2.34	3.826	O					2.01
3.167	0.00	2.34	3.810	O					2.00
3.250	0.00	2.34	3.793	O					1.99
3.333	0.00	2.33	3.777	O					1.99
3.417	0.00	2.33	3.761	O					1.98
3.500	0.00	2.33	3.745	O					1.97
3.583	0.00	2.32	3.729	O					1.96
3.667	0.00	2.32	3.713	O					1.96
3.750	0.00	2.32	3.697	O					1.95
3.833	0.00	2.31	3.681	O					1.94
3.917	0.00	2.31	3.665	O					1.93
4.000	0.00	2.31	3.649	O					1.93
4.083	0.00	2.30	3.634	O					1.92
4.167	0.00	2.30	3.618	O					1.91
4.250	0.00	2.30	3.602	O					1.90
4.333	0.00	2.30	3.586	O					1.90
4.417	0.00	2.29	3.570	O					1.89
4.500	0.00	2.29	3.554	O					1.88
4.583	0.00	2.29	3.539	O					1.87

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

4.667	0.00	2.28	3.523	0					1.87
4.750	0.00	2.28	3.507	0					1.86
4.833	0.00	2.28	3.492	0					1.85
4.917	0.00	2.27	3.476	0					1.84
5.000	0.00	2.27	3.460	0					1.84
5.083	0.00	2.27	3.445	0					1.83
5.167	0.00	2.26	3.429	0					1.82
5.250	0.00	2.26	3.413	0					1.81
5.333	0.00	2.26	3.398	0					1.81
5.417	0.00	2.25	3.382	0					1.80
5.500	0.00	2.25	3.367	0					1.79
5.583	0.00	2.25	3.351	0					1.78
5.667	0.00	2.24	3.336	0					1.78
5.750	0.00	2.24	3.320	0					1.77
5.833	0.00	2.24	3.305	0					1.76
5.917	0.00	2.23	3.290	0					1.76
6.000	0.00	2.23	3.274	0					1.75
6.083	0.00	2.23	3.259	0					1.74
6.167	0.00	2.23	3.244	0					1.73
6.250	0.00	2.22	3.228	0					1.73
6.333	0.00	2.22	3.213	0					1.72
6.417	0.00	2.22	3.198	0					1.71
6.500	0.00	2.21	3.182	0					1.70
6.583	0.00	2.21	3.167	0					1.70
6.667	0.00	2.21	3.152	0					1.69
6.750	0.00	2.20	3.137	0					1.68
6.833	0.00	2.20	3.122	0					1.68
6.917	0.00	2.20	3.107	0					1.67
7.000	0.00	2.19	3.091	0					1.66
7.083	0.00	2.19	3.076	0					1.65
7.167	0.00	2.19	3.061	0					1.65
7.250	0.00	2.19	3.046	0					1.64
7.333	0.00	2.18	3.031	0					1.63
7.417	0.00	2.18	3.016	0					1.63
7.500	0.00	2.18	3.001	0					1.62
7.583	0.00	2.17	2.986	0					1.61
7.667	0.00	2.17	2.971	0					1.60
7.750	0.00	2.17	2.956	0					1.60
7.833	0.00	2.16	2.941	0					1.59
7.917	0.00	2.16	2.926	0					1.58
8.000	0.00	2.16	2.912	0					1.58
8.083	0.00	2.15	2.897	0					1.57
8.167	0.00	2.15	2.882	0					1.56
8.250	0.00	2.15	2.867	0					1.56
8.333	0.00	2.15	2.852	0					1.55
8.417	0.00	2.14	2.837	0					1.54
8.500	0.00	2.14	2.823	0					1.53
8.583	0.00	2.14	2.808	0					1.53
8.667	0.00	2.13	2.793	0					1.52
8.750	0.00	2.13	2.779	0					1.51
8.833	0.00	2.13	2.764	0					1.51
8.917	0.00	2.12	2.749	0					1.50
9.000	0.00	2.12	2.735	0					1.49
9.083	0.00	2.12	2.720	0					1.49
9.167	0.00	2.12	2.705	0					1.48
9.250	0.00	2.11	2.691	0					1.47
9.333	0.00	2.11	2.676	0					1.47
9.417	0.00	2.11	2.662	0					1.46
9.500	0.00	2.10	2.647	0					1.45
9.583	0.00	2.10	2.633	0					1.44
9.667	0.00	2.10	2.618	0					1.44
9.750	0.00	2.10	2.604	0					1.43
9.833	0.00	2.09	2.590	0					1.42

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

9.917	0.00	2.09	2.575	0					1.42
10.000	0.00	2.09	2.561	0					1.41
10.083	0.00	2.08	2.546	0					1.40
10.167	0.00	2.08	2.532	0					1.40
10.250	0.00	2.08	2.518	0					1.39
10.333	0.00	2.07	2.503	0					1.38
10.417	0.00	2.07	2.489	0					1.38
10.500	0.00	2.07	2.475	0					1.37
10.583	0.00	2.07	2.461	0					1.36
10.667	0.00	2.06	2.446	0					1.36
10.750	0.00	2.06	2.432	0					1.35
10.833	0.00	2.06	2.418	0					1.34
10.917	0.00	2.05	2.404	0					1.34
11.000	0.00	2.05	2.390	0					1.33
11.083	0.00	2.05	2.376	0					1.32
11.167	0.00	2.05	2.362	0					1.32
11.250	0.00	2.04	2.347	0					1.31
11.333	0.00	2.04	2.333	0					1.30
11.417	0.00	2.04	2.319	0					1.30
11.500	0.00	2.03	2.305	0					1.29
11.583	0.00	2.03	2.291	0					1.28
11.667	0.00	2.03	2.277	0					1.28
11.750	0.00	2.03	2.263	0					1.27
11.833	0.00	2.02	2.249	0					1.26
11.917	0.00	2.02	2.236	0					1.26
12.000	0.00	2.02	2.222	0					1.25
12.083	0.00	2.01	2.208	0					1.24
12.167	0.00	2.01	2.194	0					1.24
12.250	0.00	2.01	2.180	0					1.23
12.333	0.00	2.01	2.166	0					1.22
12.417	0.00	2.00	2.152	0					1.22
12.500	0.00	2.00	2.139	0					1.21
12.583	0.00	2.00	2.125	0					1.20
12.667	0.00	2.00	2.111	0					1.20
12.750	0.00	1.99	2.097	0					1.19
12.833	0.00	1.99	2.084	0					1.18
12.917	0.00	1.99	2.070	0					1.18
13.000	0.00	1.98	2.056	0					1.17
13.083	0.00	1.98	2.043	0					1.17
13.167	0.00	1.98	2.029	0					1.16
13.250	0.00	1.98	2.015	0					1.15
13.333	0.00	1.97	2.002	0					1.15
13.417	0.00	1.97	1.988	0					1.14
13.500	0.00	1.97	1.975	0					1.13
13.583	0.00	1.96	1.961	0					1.13
13.667	0.00	1.96	1.948	0					1.12
13.750	0.00	1.96	1.934	0					1.11
13.833	0.00	1.96	1.921	0					1.11
13.917	0.00	1.95	1.907	0					1.10
14.000	0.00	1.95	1.894	0					1.09
14.083	0.00	1.95	1.880	0					1.09
14.167	0.00	1.95	1.867	0					1.08
14.250	0.00	1.94	1.853	0					1.08
14.333	0.00	1.94	1.840	0					1.07
14.417	0.00	1.94	1.827	0					1.06
14.500	0.00	1.93	1.813	0					1.06
14.583	0.00	1.93	1.800	0					1.05
14.667	0.00	1.93	1.787	0					1.04
14.750	0.00	1.93	1.774	0					1.04
14.833	0.00	1.92	1.760	0					1.03
14.917	0.00	1.92	1.747	0					1.03
15.000	0.00	1.92	1.734	0					1.02
15.083	0.00	1.92	1.721	0					1.01

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	1.91	1.707	0					1.01
15.250	0.00	1.91	1.694	0					1.00
15.333	0.00	1.90	1.681	0					0.99
15.417	0.00	1.88	1.668	0					0.99
15.500	0.00	1.87	1.655	0					0.98
15.583	0.00	1.85	1.642	0					0.97
15.667	0.00	1.84	1.630	0					0.96
15.750	0.00	1.82	1.617	0					0.96
15.833	0.00	1.81	1.605	0					0.95
15.917	0.00	1.80	1.592	0					0.94
16.000	0.00	1.78	1.580	0					0.93
16.083	0.00	1.77	1.568	0					0.93
16.167	0.00	1.75	1.555	0					0.92
16.250	0.00	1.74	1.543	0					0.91
16.333	0.00	1.73	1.531	0					0.90
16.417	0.00	1.71	1.520	0					0.90
16.500	0.00	1.70	1.508	0					0.89
16.583	0.00	1.69	1.496	0					0.88
16.667	0.00	1.67	1.485	0					0.88
16.750	0.00	1.66	1.473	0					0.87
16.833	0.00	1.65	1.462	0					0.86
16.917	0.00	1.64	1.450	0					0.86
17.000	0.00	1.62	1.439	0					0.85
17.083	0.00	1.61	1.428	0					0.84
17.167	0.00	1.60	1.417	0					0.84
17.250	0.00	1.59	1.406	0					0.83
17.333	0.00	1.57	1.395	0					0.82
17.417	0.00	1.56	1.384	0					0.82
17.500	0.00	1.55	1.374	0					0.81
17.583	0.00	1.54	1.363	0					0.81
17.667	0.00	1.53	1.352	0					0.80
17.750	0.00	1.51	1.342	0					0.79
17.833	0.00	1.50	1.332	0					0.79
17.917	0.00	1.49	1.321	0					0.78
18.000	0.00	1.48	1.311	0					0.77
18.083	0.00	1.47	1.301	0					0.77
18.167	0.00	1.46	1.291	0					0.76
18.250	0.00	1.45	1.281	0					0.76
18.333	0.00	1.43	1.271	0					0.75
18.417	0.00	1.42	1.261	0					0.74
18.500	0.00	1.41	1.251	0					0.74
18.583	0.00	1.40	1.242	0					0.73
18.667	0.00	1.39	1.232	0					0.73
18.750	0.00	1.38	1.223	0					0.72
18.833	0.00	1.37	1.213	0					0.72
18.917	0.00	1.36	1.204	0					0.71
19.000	0.00	1.35	1.194	0					0.71
19.083	0.00	1.34	1.185	0					0.70
19.167	0.00	1.33	1.176	0					0.69
19.250	0.00	1.32	1.167	0					0.69
19.333	0.00	1.31	1.158	0					0.68
19.417	0.00	1.30	1.149	0					0.68
19.500	0.00	1.29	1.140	0					0.67
19.583	0.00	1.28	1.131	0					0.67
19.667	0.00	1.27	1.122	0					0.66
19.750	0.00	1.26	1.114	0					0.66
19.833	0.00	1.25	1.105	0					0.65
19.917	0.00	1.24	1.097	0					0.65
20.000	0.00	1.23	1.088	0					0.64
20.083	0.00	1.22	1.080	0					0.64
20.167	0.00	1.21	1.071	0					0.63
20.250	0.00	1.20	1.063	0					0.63
20.333	0.00	1.19	1.055	0					0.62

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	1.18	1.047	0					0.62
20.500	0.00	1.17	1.038	0					0.61
20.583	0.00	1.16	1.030	0					0.61
20.667	0.00	1.15	1.022	0					0.60
20.750	0.00	1.14	1.015	0					0.60
20.833	0.00	1.14	1.007	0					0.59
20.917	0.00	1.13	0.999	0					0.59
21.000	0.00	1.12	0.991	0					0.59
21.083	0.00	1.11	0.983	0					0.58
21.167	0.00	1.10	0.976	0					0.58
21.250	0.00	1.09	0.968	0					0.57
21.333	0.00	1.08	0.961	0					0.57
21.417	0.00	1.08	0.953	0					0.56
21.500	0.00	1.07	0.946	0					0.56
21.583	0.00	1.06	0.939	0					0.55
21.667	0.00	1.05	0.931	0					0.55
21.750	0.00	1.04	0.924	0					0.55
21.833	0.00	1.03	0.917	0					0.54
21.917	0.00	1.03	0.910	0					0.54
22.000	0.00	1.02	0.903	0					0.53
22.083	0.00	1.01	0.896	0					0.53
22.167	0.00	1.00	0.889	0					0.53
22.250	0.00	1.00	0.882	0					0.52
22.333	0.00	0.99	0.875	0					0.52
22.417	0.00	0.98	0.869	0					0.51
22.500	0.00	0.97	0.862	0					0.51
22.583	0.00	0.96	0.855	0					0.51
22.667	0.00	0.96	0.849	0					0.50
22.750	0.00	0.95	0.842	0					0.50
22.833	0.00	0.94	0.835	0					0.49
22.917	0.00	0.94	0.829	0					0.49
23.000	0.00	0.93	0.823	0					0.49
23.083	0.00	0.92	0.816	0					0.48
23.167	0.00	0.91	0.810	0					0.48
23.250	0.00	0.91	0.804	0					0.47
23.333	0.00	0.90	0.797	0					0.47
23.417	0.00	0.89	0.791	0					0.47
23.500	0.00	0.89	0.785	0					0.46
23.583	0.00	0.88	0.779	0					0.46
23.667	0.00	0.87	0.773	0					0.46
23.750	0.00	0.87	0.767	0					0.45
23.833	0.00	0.86	0.761	0					0.45
23.917	0.00	0.85	0.755	0					0.45
24.000	0.00	0.85	0.749	0					0.44
24.083	0.00	0.84	0.744	0					0.44
24.167	0.00	0.83	0.738	0					0.44
24.250	0.00	0.83	0.732	0					0.43
24.333	0.00	0.82	0.726	0					0.43
24.417	0.00	0.81	0.721	0					0.43
24.500	0.00	0.81	0.715	0					0.42
24.583	0.00	0.80	0.710	0					0.42
24.667	0.00	0.79	0.704	0					0.42
24.750	0.00	0.79	0.699	0					0.41
24.833	0.00	0.78	0.693	0					0.41
24.917	0.00	0.78	0.688	0					0.41
25.000	0.00	0.77	0.683	0					0.40
25.083	0.00	0.76	0.677	0					0.40
25.167	0.00	0.76	0.672	0					0.40
25.250	0.00	0.75	0.667	0					0.39
25.333	0.00	0.75	0.662	0					0.39
25.417	0.00	0.74	0.657	0					0.39
25.500	0.00	0.74	0.652	0					0.38
25.583	0.00	0.73	0.646	0					0.38



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	0.72	0.641	0					0.38
25.750	0.00	0.72	0.637	0					0.38
25.833	0.00	0.71	0.632	0					0.37
25.917	0.00	0.71	0.627	0					0.37
26.000	0.00	0.70	0.622	0					0.37
26.083	0.00	0.70	0.617	0					0.36
26.167	0.00	0.69	0.612	0					0.36
26.250	0.00	0.69	0.608	0					0.36
26.333	0.00	0.68	0.603	0					0.36
26.417	0.00	0.67	0.598	0					0.35
26.500	0.00	0.67	0.594	0					0.35
26.583	0.00	0.66	0.589	0					0.35
26.667	0.00	0.66	0.584	0					0.35
26.750	0.00	0.65	0.580	0					0.34
26.833	0.00	0.65	0.575	0					0.34
26.917	0.00	0.64	0.571	0					0.34
27.000	0.00	0.64	0.566	0					0.33
27.083	0.00	0.63	0.562	0					0.33
27.167	0.00	0.63	0.558	0					0.33
27.250	0.00	0.62	0.553	0					0.33
27.333	0.00	0.62	0.549	0					0.32
27.417	0.00	0.61	0.545	0					0.32
27.500	0.00	0.61	0.541	0					0.32
27.583	0.00	0.61	0.536	0					0.32
27.667	0.00	0.60	0.532	0					0.31
27.750	0.00	0.60	0.528	0					0.31
27.833	0.00	0.59	0.524	0					0.31
27.917	0.00	0.59	0.520	0					0.31
28.000	0.00	0.58	0.516	0					0.30
28.083	0.00	0.58	0.512	0					0.30
28.167	0.00	0.57	0.508	0					0.30
28.250	0.00	0.57	0.504	0					0.30
28.333	0.00	0.56	0.500	0					0.30
28.417	0.00	0.56	0.496	0					0.29
28.500	0.00	0.56	0.493	0					0.29
28.583	0.00	0.55	0.489	0					0.29
28.667	0.00	0.55	0.485	0					0.29
28.750	0.00	0.54	0.481	0					0.28
28.833	0.00	0.54	0.477	0					0.28
28.917	0.00	0.53	0.474	0					0.28
29.000	0.00	0.53	0.470	0					0.28
29.083	0.00	0.53	0.466	0					0.28
29.167	0.00	0.52	0.463	0					0.27
29.250	0.00	0.52	0.459	0					0.27
29.333	0.00	0.51	0.456	0					0.27
29.417	0.00	0.51	0.452	0					0.27
29.500	0.00	0.51	0.449	0					0.27
29.583	0.00	0.50	0.445	0					0.26
29.667	0.00	0.50	0.442	0					0.26
29.750	0.00	0.49	0.438	0					0.26
29.833	0.00	0.49	0.435	0					0.26
29.917	0.00	0.49	0.432	0					0.25
30.000	0.00	0.48	0.428	0					0.25
30.083	0.00	0.48	0.425	0					0.25
30.167	0.00	0.48	0.422	0					0.25
30.250	0.00	0.47	0.418	0					0.25
30.333	0.00	0.47	0.415	0					0.25
30.417	0.00	0.46	0.412	0					0.24
30.500	0.00	0.46	0.409	0					0.24
30.583	0.00	0.46	0.406	0					0.24
30.667	0.00	0.45	0.402	0					0.24
30.750	0.00	0.45	0.399	0					0.24
30.833	0.00	0.45	0.396	0					0.23

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

30.917	0.00	0.44	0.393	o					0.23
31.000	0.00	0.44	0.390	o					0.23
31.083	0.00	0.44	0.387	o					0.23
31.167	0.00	0.43	0.384	o					0.23
31.250	0.00	0.43	0.381	o					0.23
31.333	0.00	0.43	0.378	o					0.22
31.417	0.00	0.42	0.375	o					0.22
31.500	0.00	0.42	0.372	o					0.22
31.583	0.00	0.42	0.369	o					0.22
31.667	0.00	0.41	0.367	o					0.22
31.750	0.00	0.41	0.364	o					0.21
31.833	0.00	0.41	0.361	o					0.21
31.917	0.00	0.40	0.358	o					0.21
32.000	0.00	0.40	0.355	o					0.21
32.083	0.00	0.40	0.353	o					0.21
32.167	0.00	0.39	0.350	o					0.21
32.250	0.00	0.39	0.347	o					0.21
32.333	0.00	0.39	0.345	o					0.20
32.417	0.00	0.39	0.342	o					0.20
32.500	0.00	0.38	0.339	o					0.20
32.583	0.00	0.38	0.337	o					0.20
32.667	0.00	0.38	0.334	o					0.20
32.750	0.00	0.37	0.331	o					0.20
32.833	0.00	0.37	0.329	o					0.19
32.917	0.00	0.37	0.326	o					0.19
33.000	0.00	0.37	0.324	o					0.19
33.083	0.00	0.36	0.321	o					0.19
33.167	0.00	0.36	0.319	o					0.19
33.250	0.00	0.36	0.316	o					0.19
33.333	0.00	0.35	0.314	o					0.19
33.417	0.00	0.35	0.311	o					0.18
33.500	0.00	0.35	0.309	o					0.18
33.583	0.00	0.35	0.307	o					0.18
33.667	0.00	0.34	0.304	o					0.18
33.750	0.00	0.34	0.302	o					0.18
33.833	0.00	0.34	0.300	o					0.18
33.917	0.00	0.34	0.297	o					0.18
34.000	0.00	0.33	0.295	o					0.17
34.083	0.00	0.33	0.293	o					0.17
34.167	0.00	0.33	0.290	o					0.17
34.250	0.00	0.33	0.288	o					0.17
34.333	0.00	0.32	0.286	o					0.17
34.417	0.00	0.32	0.284	o					0.17
34.500	0.00	0.32	0.282	o					0.17
34.583	0.00	0.32	0.279	o					0.16
34.667	0.00	0.31	0.277	o					0.16
34.750	0.00	0.31	0.275	o					0.16
34.833	0.00	0.31	0.273	o					0.16
34.917	0.00	0.31	0.271	o					0.16
35.000	0.00	0.30	0.269	o					0.16
35.083	0.00	0.30	0.267	o					0.16
35.167	0.00	0.30	0.265	o					0.16
35.250	0.00	0.30	0.262	o					0.16
35.333	0.00	0.29	0.260	o					0.15
35.417	0.00	0.29	0.258	o					0.15
35.500	0.00	0.29	0.256	o					0.15
35.583	0.00	0.29	0.254	o					0.15
35.667	0.00	0.28	0.252	o					0.15
35.750	0.00	0.28	0.251	o					0.15
35.833	0.00	0.28	0.249	o					0.15
35.917	0.00	0.28	0.247	o					0.15
36.000	0.00	0.28	0.245	o					0.14
36.083	0.00	0.27	0.243	o					0.14

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

36.167	0.00	0.27	0.241	o					0.14
36.250	0.00	0.27	0.239	o					0.14
36.333	0.00	0.27	0.237	o					0.14
36.417	0.00	0.27	0.235	o					0.14
36.500	0.00	0.26	0.234	o					0.14
36.583	0.00	0.26	0.232	o					0.14
36.667	0.00	0.26	0.230	o					0.14
36.750	0.00	0.26	0.228	o					0.13
36.833	0.00	0.26	0.226	o					0.13
36.917	0.00	0.25	0.225	o					0.13
37.000	0.00	0.25	0.223	o					0.13
37.083	0.00	0.25	0.221	o					0.13
37.167	0.00	0.25	0.220	o					0.13
37.250	0.00	0.25	0.218	o					0.13
37.333	0.00	0.24	0.216	o					0.13
37.417	0.00	0.24	0.214	o					0.13
37.500	0.00	0.24	0.213	o					0.13
37.583	0.00	0.24	0.211	o					0.12
37.667	0.00	0.24	0.210	o					0.12
37.750	0.00	0.23	0.208	o					0.12
37.833	0.00	0.23	0.206	o					0.12
37.917	0.00	0.23	0.205	o					0.12
38.000	0.00	0.23	0.203	o					0.12
38.083	0.00	0.23	0.202	o					0.12
38.167	0.00	0.23	0.200	o					0.12
38.250	0.00	0.22	0.198	o					0.12
38.333	0.00	0.22	0.197	o					0.12
38.417	0.00	0.22	0.195	o					0.12
38.500	0.00	0.22	0.194	o					0.11
38.583	0.00	0.22	0.192	o					0.11
38.667	0.00	0.22	0.191	o					0.11
38.750	0.00	0.21	0.189	o					0.11
38.833	0.00	0.21	0.188	o					0.11
38.917	0.00	0.21	0.186	o					0.11
39.000	0.00	0.21	0.185	o					0.11
39.083	0.00	0.21	0.184	o					0.11
39.167	0.00	0.21	0.182	o					0.11
39.250	0.00	0.20	0.181	o					0.11
39.333	0.00	0.20	0.179	o					0.11
39.417	0.00	0.20	0.178	o					0.11
39.500	0.00	0.20	0.177	o					0.10
39.583	0.00	0.20	0.175	o					0.10
39.667	0.00	0.20	0.174	o					0.10
39.750	0.00	0.19	0.173	o					0.10
39.833	0.00	0.19	0.171	o					0.10
39.917	0.00	0.19	0.170	o					0.10
40.000	0.00	0.19	0.169	o					0.10
40.083	0.00	0.19	0.167	o					0.10
40.167	0.00	0.19	0.166	o					0.10
40.250	0.00	0.19	0.165	o					0.10
40.333	0.00	0.18	0.163	o					0.10
40.417	0.00	0.18	0.162	o					0.10
40.500	0.00	0.18	0.161	o					0.10
40.583	0.00	0.18	0.160	o					0.09
40.667	0.00	0.18	0.158	o					0.09
40.750	0.00	0.18	0.157	o					0.09
40.833	0.00	0.18	0.156	o					0.09
40.917	0.00	0.17	0.155	o					0.09
41.000	0.00	0.17	0.154	o					0.09
41.083	0.00	0.17	0.152	o					0.09
41.167	0.00	0.17	0.151	o					0.09
41.250	0.00	0.17	0.150	o					0.09
41.333	0.00	0.17	0.149	o					0.09

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

41.417	0.00	0.17	0.148	0					0.09
41.500	0.00	0.17	0.147	0					0.09
41.583	0.00	0.16	0.145	0					0.09
41.667	0.00	0.16	0.144	0					0.09
41.750	0.00	0.16	0.143	0					0.08
41.833	0.00	0.16	0.142	0					0.08
41.917	0.00	0.16	0.141	0					0.08
42.000	0.00	0.16	0.140	0					0.08
42.083	0.00	0.16	0.139	0					0.08
42.167	0.00	0.16	0.138	0					0.08
42.250	0.00	0.15	0.137	0					0.08
42.333	0.00	0.15	0.136	0					0.08
42.417	0.00	0.15	0.135	0					0.08
42.500	0.00	0.15	0.134	0					0.08
42.583	0.00	0.15	0.132	0					0.08
42.667	0.00	0.15	0.131	0					0.08
42.750	0.00	0.15	0.130	0					0.08
42.833	0.00	0.15	0.129	0					0.08
42.917	0.00	0.14	0.128	0					0.08
43.000	0.00	0.14	0.127	0					0.08
43.083	0.00	0.14	0.126	0					0.07
43.167	0.00	0.14	0.125	0					0.07
43.250	0.00	0.14	0.125	0					0.07
43.333	0.00	0.14	0.124	0					0.07
43.417	0.00	0.14	0.123	0					0.07
43.500	0.00	0.14	0.122	0					0.07
43.583	0.00	0.14	0.121	0					0.07
43.667	0.00	0.14	0.120	0					0.07
43.750	0.00	0.13	0.119	0					0.07
43.833	0.00	0.13	0.118	0					0.07
43.917	0.00	0.13	0.117	0					0.07
44.000	0.00	0.13	0.116	0					0.07
44.083	0.00	0.13	0.115	0					0.07
44.167	0.00	0.13	0.114	0					0.07
44.250	0.00	0.13	0.113	0					0.07
44.333	0.00	0.13	0.113	0					0.07
44.417	0.00	0.13	0.112	0					0.07
44.500	0.00	0.13	0.111	0					0.07
44.583	0.00	0.12	0.110	0					0.06
44.667	0.00	0.12	0.109	0					0.06
44.750	0.00	0.12	0.108	0					0.06
44.833	0.00	0.12	0.107	0					0.06
44.917	0.00	0.12	0.107	0					0.06
45.000	0.00	0.12	0.106	0					0.06
45.083	0.00	0.12	0.105	0					0.06
45.167	0.00	0.12	0.104	0					0.06
45.250	0.00	0.12	0.103	0					0.06
45.333	0.00	0.12	0.103	0					0.06
45.417	0.00	0.11	0.102	0					0.06
45.500	0.00	0.11	0.101	0					0.06
45.583	0.00	0.11	0.100	0					0.06
45.667	0.00	0.11	0.099	0					0.06
45.750	0.00	0.11	0.099	0					0.06
45.833	0.00	0.11	0.098	0					0.06
45.917	0.00	0.11	0.097	0					0.06
46.000	0.00	0.11	0.096	0					0.06
46.083	0.00	0.11	0.096	0					0.06
46.167	0.00	0.11	0.095	0					0.06
46.250	0.00	0.11	0.094	0					0.06
46.333	0.00	0.11	0.093	0					0.06
46.417	0.00	0.10	0.093	0					0.05
46.500	0.00	0.10	0.092	0					0.05
46.583	0.00	0.10	0.091	0					0.05

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.10	0.091	o					0.05
46.750	0.00	0.10	0.090	o					0.05
46.833	0.00	0.10	0.089	o					0.05
46.917	0.00	0.10	0.088	o					0.05
47.000	0.00	0.10	0.088	o					0.05
47.083	0.00	0.10	0.087	o					0.05
47.167	0.00	0.10	0.086	o					0.05
47.250	0.00	0.10	0.086	o					0.05
47.333	0.00	0.10	0.085	o					0.05
47.417	0.00	0.10	0.084	o					0.05
47.500	0.00	0.09	0.084	o					0.05
47.583	0.00	0.09	0.083	o					0.05
47.667	0.00	0.09	0.082	o					0.05
47.750	0.00	0.09	0.082	o					0.05
47.833	0.00	0.09	0.081	o					0.05
47.917	0.00	0.09	0.081	o					0.05
48.000	0.00	0.09	0.080	o					0.05
48.083	0.00	0.09	0.079	o					0.05
48.167	0.00	0.09	0.079	o					0.05
48.250	0.00	0.09	0.078	o					0.05
48.333	0.00	0.09	0.078	o					0.05
48.417	0.00	0.09	0.077	o					0.05
48.500	0.00	0.09	0.076	o					0.05
48.583	0.00	0.09	0.076	o					0.04
48.667	0.00	0.08	0.075	o					0.04
48.750	0.00	0.08	0.075	o					0.04
48.833	0.00	0.08	0.074	o					0.04
48.917	0.00	0.08	0.073	o					0.04
49.000	0.00	0.08	0.073	o					0.04
49.083	0.00	0.08	0.072	o					0.04
49.167	0.00	0.08	0.072	o					0.04
49.250	0.00	0.08	0.071	o					0.04
49.333	0.00	0.08	0.071	o					0.04
49.417	0.00	0.08	0.070	o					0.04
49.500	0.00	0.08	0.070	o					0.04
49.583	0.00	0.08	0.069	o					0.04
49.667	0.00	0.08	0.068	o					0.04
49.750	0.00	0.08	0.068	o					0.04
49.833	0.00	0.08	0.067	o					0.04
49.917	0.00	0.08	0.067	o					0.04
50.000	0.00	0.07	0.066	o					0.04
50.083	0.00	0.07	0.066	o					0.04
50.167	0.00	0.07	0.065	o					0.04
50.250	0.00	0.07	0.065	o					0.04
50.333	0.00	0.07	0.064	o					0.04
50.417	0.00	0.07	0.064	o					0.04
50.500	0.00	0.07	0.063	o					0.04
50.583	0.00	0.07	0.063	o					0.04
50.667	0.00	0.07	0.062	o					0.04
50.750	0.00	0.07	0.062	o					0.04
50.833	0.00	0.07	0.061	o					0.04
50.917	0.00	0.07	0.061	o					0.04
51.000	0.00	0.07	0.060	o					0.04
51.083	0.00	0.07	0.060	o					0.04
51.167	0.00	0.07	0.060	o					0.04
51.250	0.00	0.07	0.059	o					0.03
51.333	0.00	0.07	0.059	o					0.03
51.417	0.00	0.07	0.058	o					0.03
51.500	0.00	0.07	0.058	o					0.03
51.583	0.00	0.06	0.057	o					0.03
51.667	0.00	0.06	0.057	o					0.03
51.750	0.00	0.06	0.056	o					0.03
51.833	0.00	0.06	0.056	o					0.03

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## ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.06	0.055	0					0.03
52.000	0.00	0.06	0.055	0					0.03
52.083	0.00	0.06	0.055	0					0.03
52.167	0.00	0.06	0.054	0					0.03
52.250	0.00	0.06	0.054	0					0.03
52.333	0.00	0.06	0.053	0					0.03
52.417	0.00	0.06	0.053	0					0.03
52.500	0.00	0.06	0.053	0					0.03
52.583	0.00	0.06	0.052	0					0.03
52.667	0.00	0.06	0.052	0					0.03
52.750	0.00	0.06	0.051	0					0.03
52.833	0.00	0.06	0.051	0					0.03
52.917	0.00	0.06	0.051	0					0.03
53.000	0.00	0.06	0.050	0					0.03
53.083	0.00	0.06	0.050	0					0.03
53.167	0.00	0.06	0.049	0					0.03
53.250	0.00	0.06	0.049	0					0.03
53.333	0.00	0.05	0.049	0					0.03
53.417	0.00	0.05	0.048	0					0.03
53.500	0.00	0.05	0.048	0					0.03
53.583	0.00	0.05	0.048	0					0.03
53.667	0.00	0.05	0.047	0					0.03
53.750	0.00	0.05	0.047	0					0.03
53.833	0.00	0.05	0.046	0					0.03
53.917	0.00	0.05	0.046	0					0.03
54.000	0.00	0.05	0.046	0					0.03
54.083	0.00	0.05	0.045	0					0.03
54.167	0.00	0.05	0.045	0					0.03
54.250	0.00	0.05	0.045	0					0.03
54.333	0.00	0.05	0.044	0					0.03
54.417	0.00	0.05	0.044	0					0.03
54.500	0.00	0.05	0.044	0					0.03
54.583	0.00	0.05	0.043	0					0.03
54.667	0.00	0.05	0.043	0					0.03
54.750	0.00	0.05	0.043	0					0.03
54.833	0.00	0.05	0.042	0					0.02
54.917	0.00	0.05	0.042	0					0.02
55.000	0.00	0.05	0.042	0					0.02
55.083	0.00	0.05	0.041	0					0.02
55.167	0.00	0.05	0.041	0					0.02
55.250	0.00	0.05	0.041	0					0.02
55.333	0.00	0.05	0.040	0					0.02
55.417	0.00	0.05	0.040	0					0.02
55.500	0.00	0.04	0.040	0					0.02
55.583	0.00	0.04	0.039	0					0.02
55.667	0.00	0.04	0.039	0					0.02
55.750	0.00	0.04	0.039	0					0.02
55.833	0.00	0.04	0.039	0					0.02
55.917	0.00	0.04	0.038	0					0.02
56.000	0.00	0.04	0.038	0					0.02
56.083	0.00	0.04	0.038	0					0.02
56.167	0.00	0.04	0.037	0					0.02
56.250	0.00	0.04	0.037	0					0.02
56.333	0.00	0.04	0.037	0					0.02
56.417	0.00	0.04	0.036	0					0.02
56.500	0.00	0.04	0.036	0					0.02
56.583	0.00	0.04	0.036	0					0.02
56.667	0.00	0.04	0.036	0					0.02
56.750	0.00	0.04	0.035	0					0.02
56.833	0.00	0.04	0.035	0					0.02
56.917	0.00	0.04	0.035	0					0.02
57.000	0.00	0.04	0.035	0					0.02
57.083	0.00	0.04	0.034	0					0.02

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.04	0.034	0					0.02
57.250	0.00	0.04	0.034	0					0.02
57.333	0.00	0.04	0.033	0					0.02
57.417	0.00	0.04	0.033	0					0.02
57.500	0.00	0.04	0.033	0					0.02
57.583	0.00	0.04	0.033	0					0.02
57.667	0.00	0.04	0.032	0					0.02
57.750	0.00	0.04	0.032	0					0.02
57.833	0.00	0.04	0.032	0					0.02
57.917	0.00	0.04	0.032	0					0.02
58.000	0.00	0.04	0.031	0					0.02
58.083	0.00	0.04	0.031	0					0.02
58.167	0.00	0.03	0.031	0					0.02
58.250	0.00	0.03	0.031	0					0.02
58.333	0.00	0.03	0.031	0					0.02
58.417	0.00	0.03	0.030	0					0.02
58.500	0.00	0.03	0.030	0					0.02
58.583	0.00	0.03	0.030	0					0.02
58.667	0.00	0.03	0.030	0					0.02
58.750	0.00	0.03	0.029	0					0.02
58.833	0.00	0.03	0.029	0					0.02
58.917	0.00	0.03	0.029	0					0.02
59.000	0.00	0.03	0.029	0					0.02
59.083	0.00	0.03	0.028	0					0.02
59.167	0.00	0.03	0.028	0					0.02
59.250	0.00	0.03	0.028	0					0.02
59.333	0.00	0.03	0.028	0					0.02
59.417	0.00	0.03	0.028	0					0.02
59.500	0.00	0.03	0.027	0					0.02
59.583	0.00	0.03	0.027	0					0.02
59.667	0.00	0.03	0.027	0					0.02
59.750	0.00	0.03	0.027	0					0.02
59.833	0.00	0.03	0.027	0					0.02
59.917	0.00	0.03	0.026	0					0.02
60.000	0.00	0.03	0.026	0					0.02
60.083	0.00	0.03	0.026	0					0.02
60.167	0.00	0.03	0.026	0					0.02
60.250	0.00	0.03	0.026	0					0.02
60.333	0.00	0.03	0.025	0					0.01
60.417	0.00	0.03	0.025	0					0.01
60.500	0.00	0.03	0.025	0					0.01
60.583	0.00	0.03	0.025	0					0.01
60.667	0.00	0.03	0.025	0					0.01
60.750	0.00	0.03	0.024	0					0.01
60.833	0.00	0.03	0.024	0					0.01
60.917	0.00	0.03	0.024	0					0.01
61.000	0.00	0.03	0.024	0					0.01
61.083	0.00	0.03	0.024	0					0.01
61.167	0.00	0.03	0.023	0					0.01
61.250	0.00	0.03	0.023	0					0.01
61.333	0.00	0.03	0.023	0					0.01
61.417	0.00	0.03	0.023	0					0.01
61.500	0.00	0.03	0.023	0					0.01
61.583	0.00	0.03	0.023	0					0.01
61.667	0.00	0.03	0.022	0					0.01
61.750	0.00	0.03	0.022	0					0.01
61.833	0.00	0.02	0.022	0					0.01
61.917	0.00	0.02	0.022	0					0.01
62.000	0.00	0.02	0.022	0					0.01
62.083	0.00	0.02	0.022	0					0.01
62.167	0.00	0.02	0.021	0					0.01
62.250	0.00	0.02	0.021	0					0.01
62.333	0.00	0.02	0.021	0					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.02	0.021	o					0.01
62.500	0.00	0.02	0.021	o					0.01
62.583	0.00	0.02	0.021	o					0.01
62.667	0.00	0.02	0.020	o					0.01
62.750	0.00	0.02	0.020	o					0.01
62.833	0.00	0.02	0.020	o					0.01
62.917	0.00	0.02	0.020	o					0.01
63.000	0.00	0.02	0.020	o					0.01
63.083	0.00	0.02	0.020	o					0.01
63.167	0.00	0.02	0.019	o					0.01
63.250	0.00	0.02	0.019	o					0.01
63.333	0.00	0.02	0.019	o					0.01
63.417	0.00	0.02	0.019	o					0.01
63.500	0.00	0.02	0.019	o					0.01
63.583	0.00	0.02	0.019	o					0.01
63.667	0.00	0.02	0.019	o					0.01
63.750	0.00	0.02	0.018	o					0.01
63.833	0.00	0.02	0.018	o					0.01
63.917	0.00	0.02	0.018	o					0.01
64.000	0.00	0.02	0.018	o					0.01
64.083	0.00	0.02	0.018	o					0.01
64.167	0.00	0.02	0.018	o					0.01
64.250	0.00	0.02	0.018	o					0.01
64.333	0.00	0.02	0.017	o					0.01
64.417	0.00	0.02	0.017	o					0.01
64.500	0.00	0.02	0.017	o					0.01
64.583	0.00	0.02	0.017	o					0.01
64.667	0.00	0.02	0.017	o					0.01
64.750	0.00	0.02	0.017	o					0.01
64.833	0.00	0.02	0.017	o					0.01
64.917	0.00	0.02	0.017	o					0.01
65.000	0.00	0.02	0.016	o					0.01
65.083	0.00	0.02	0.016	o					0.01
65.167	0.00	0.02	0.016	o					0.01
65.250	0.00	0.02	0.016	o					0.01
65.333	0.00	0.02	0.016	o					0.01
65.417	0.00	0.02	0.016	o					0.01
65.500	0.00	0.02	0.016	o					0.01
65.583	0.00	0.02	0.016	o					0.01
65.667	0.00	0.02	0.015	o					0.01
65.750	0.00	0.02	0.015	o					0.01
65.833	0.00	0.02	0.015	o					0.01
65.917	0.00	0.02	0.015	o					0.01
66.000	0.00	0.02	0.015	o					0.01
66.083	0.00	0.02	0.015	o					0.01
66.167	0.00	0.02	0.015	o					0.01
66.250	0.00	0.02	0.015	o					0.01
66.333	0.00	0.02	0.014	o					0.01
66.417	0.00	0.02	0.014	o					0.01
66.500	0.00	0.02	0.014	o					0.01
66.583	0.00	0.02	0.014	o					0.01
66.667	0.00	0.02	0.014	o					0.01
66.750	0.00	0.02	0.014	o					0.01
66.833	0.00	0.02	0.014	o					0.01
66.917	0.00	0.02	0.014	o					0.01
67.000	0.00	0.02	0.014	o					0.01
67.083	0.00	0.02	0.013	o					0.01
67.167	0.00	0.02	0.013	o					0.01
67.250	0.00	0.01	0.013	o					0.01
67.333	0.00	0.01	0.013	o					0.01
67.417	0.00	0.01	0.013	o					0.01
67.500	0.00	0.01	0.013	o					0.01
67.583	0.00	0.01	0.013	o					0.01



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.01	0.013	o					0.01
67.750	0.00	0.01	0.013	o					0.01
67.833	0.00	0.01	0.013	o					0.01
67.917	0.00	0.01	0.012	o					0.01
68.000	0.00	0.01	0.012	o					0.01
68.083	0.00	0.01	0.012	o					0.01
68.167	0.00	0.01	0.012	o					0.01
68.250	0.00	0.01	0.012	o					0.01
68.333	0.00	0.01	0.012	o					0.01
68.417	0.00	0.01	0.012	o					0.01
68.500	0.00	0.01	0.012	o					0.01
68.583	0.00	0.01	0.012	o					0.01
68.667	0.00	0.01	0.012	o					0.01
68.750	0.00	0.01	0.012	o					0.01
68.833	0.00	0.01	0.011	o					0.01
68.917	0.00	0.01	0.011	o					0.01
69.000	0.00	0.01	0.011	o					0.01
69.083	0.00	0.01	0.011	o					0.01
69.167	0.00	0.01	0.011	o					0.01
69.250	0.00	0.01	0.011	o					0.01
69.333	0.00	0.01	0.011	o					0.01
69.417	0.00	0.01	0.011	o					0.01
69.500	0.00	0.01	0.011	o					0.01
69.583	0.00	0.01	0.011	o					0.01
69.667	0.00	0.01	0.011	o					0.01
69.750	0.00	0.01	0.011	o					0.01
69.833	0.00	0.01	0.010	o					0.01
69.917	0.00	0.01	0.010	o					0.01
70.000	0.00	0.01	0.010	o					0.01
70.083	0.00	0.01	0.010	o					0.01
70.167	0.00	0.01	0.010	o					0.01
70.250	0.00	0.01	0.010	o					0.01
70.333	0.00	0.01	0.010	o					0.01
70.417	0.00	0.01	0.010	o					0.01
70.500	0.00	0.01	0.010	o					0.01
70.583	0.00	0.01	0.010	o					0.01
70.667	0.00	0.01	0.010	o					0.01
70.750	0.00	0.01	0.010	o					0.01
70.833	0.00	0.01	0.010	o					0.01
70.917	0.00	0.01	0.009	o					0.01
71.000	0.00	0.01	0.009	o					0.01
71.083	0.00	0.01	0.009	o					0.01
71.167	0.00	0.01	0.009	o					0.01
71.250	0.00	0.01	0.009	o					0.01
71.333	0.00	0.01	0.009	o					0.01
71.417	0.00	0.01	0.009	o					0.01
71.500	0.00	0.01	0.009	o					0.01
71.583	0.00	0.01	0.009	o					0.01
71.667	0.00	0.01	0.009	o					0.01
71.750	0.00	0.01	0.009	o					0.01
71.833	0.00	0.01	0.009	o					0.01
71.917	0.00	0.01	0.009	o					0.01
72.000	0.00	0.01	0.009	o					0.01
72.083	0.00	0.01	0.008	o					0.01
72.167	0.00	0.01	0.008	o					0.00
72.250	0.00	0.01	0.008	o					0.00
72.333	0.00	0.01	0.008	o					0.00
72.417	0.00	0.01	0.008	o					0.00
72.500	0.00	0.01	0.008	o					0.00
72.583	0.00	0.01	0.008	o					0.00
72.667	0.00	0.01	0.008	o					0.00
72.750	0.00	0.01	0.008	o					0.00
72.833	0.00	0.01	0.008	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.01	0.008	o					0.00
73.000	0.00	0.01	0.008	o					0.00
73.083	0.00	0.01	0.008	o					0.00
73.167	0.00	0.01	0.008	o					0.00
73.250	0.00	0.01	0.008	o					0.00
73.333	0.00	0.01	0.008	o					0.00
73.417	0.00	0.01	0.007	o					0.00
73.500	0.00	0.01	0.007	o					0.00
73.583	0.00	0.01	0.007	o					0.00
73.667	0.00	0.01	0.007	o					0.00
73.750	0.00	0.01	0.007	o					0.00
73.833	0.00	0.01	0.007	o					0.00
73.917	0.00	0.01	0.007	o					0.00
74.000	0.00	0.01	0.007	o					0.00
74.083	0.00	0.01	0.007	o					0.00
74.167	0.00	0.01	0.007	o					0.00
74.250	0.00	0.01	0.007	o					0.00
74.333	0.00	0.01	0.007	o					0.00
74.417	0.00	0.01	0.007	o					0.00
74.500	0.00	0.01	0.007	o					0.00
74.583	0.00	0.01	0.007	o					0.00
74.667	0.00	0.01	0.007	o					0.00
74.750	0.00	0.01	0.007	o					0.00
74.833	0.00	0.01	0.007	o					0.00
74.917	0.00	0.01	0.006	o					0.00
75.000	0.00	0.01	0.006	o					0.00
75.083	0.00	0.01	0.006	o					0.00
75.167	0.00	0.01	0.006	o					0.00
75.250	0.00	0.01	0.006	o					0.00
75.333	0.00	0.01	0.006	o					0.00
75.417	0.00	0.01	0.006	o					0.00
75.500	0.00	0.01	0.006	o					0.00
75.583	0.00	0.01	0.006	o					0.00
75.667	0.00	0.01	0.006	o					0.00
75.750	0.00	0.01	0.006	o					0.00
75.833	0.00	0.01	0.006	o					0.00
75.917	0.00	0.01	0.006	o					0.00
76.000	0.00	0.01	0.006	o					0.00
76.083	0.00	0.01	0.006	o					0.00
76.167	0.00	0.01	0.006	o					0.00
76.250	0.00	0.01	0.006	o					0.00
76.333	0.00	0.01	0.006	o					0.00
76.417	0.00	0.01	0.006	o					0.00
76.500	0.00	0.01	0.006	o					0.00
76.583	0.00	0.01	0.006	o					0.00
76.667	0.00	0.01	0.006	o					0.00
76.750	0.00	0.01	0.005	o					0.00
76.833	0.00	0.01	0.005	o					0.00
76.917	0.00	0.01	0.005	o					0.00
77.000	0.00	0.01	0.005	o					0.00
77.083	0.00	0.01	0.005	o					0.00
77.167	0.00	0.01	0.005	o					0.00
77.250	0.00	0.01	0.005	o					0.00
77.333	0.00	0.01	0.005	o					0.00
77.417	0.00	0.01	0.005	o					0.00
77.500	0.00	0.01	0.005	o					0.00
77.583	0.00	0.01	0.005	o					0.00
77.667	0.00	0.01	0.005	o					0.00
77.750	0.00	0.01	0.005	o					0.00
77.833	0.00	0.01	0.005	o					0.00
77.917	0.00	0.01	0.005	o					0.00
78.000	0.00	0.01	0.005	o					0.00
78.083	0.00	0.01	0.005	o					0.00

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### ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.01	0.005	0					0.00
78.250	0.00	0.01	0.005	0					0.00
78.333	0.00	0.01	0.005	0					0.00
78.417	0.00	0.01	0.005	0					0.00
78.500	0.00	0.01	0.005	0					0.00
78.583	0.00	0.01	0.005	0					0.00
78.667	0.00	0.01	0.005	0					0.00
78.750	0.00	0.01	0.005	0					0.00
78.833	0.00	0.01	0.005	0					0.00
78.917	0.00	0.01	0.004	0					0.00
79.000	0.00	0.01	0.004	0					0.00
79.083	0.00	0.00	0.004	0					0.00
79.167	0.00	0.00	0.004	0					0.00
79.250	0.00	0.00	0.004	0					0.00
79.333	0.00	0.00	0.004	0					0.00
79.417	0.00	0.00	0.004	0					0.00
79.500	0.00	0.00	0.004	0					0.00
79.583	0.00	0.00	0.004	0					0.00
79.667	0.00	0.00	0.004	0					0.00
79.750	0.00	0.00	0.004	0					0.00
79.833	0.00	0.00	0.004	0					0.00
79.917	0.00	0.00	0.004	0					0.00
80.000	0.00	0.00	0.004	0					0.00
80.083	0.00	0.00	0.004	0					0.00
80.167	0.00	0.00	0.004	0					0.00
80.250	0.00	0.00	0.004	0					0.00
80.333	0.00	0.00	0.004	0					0.00
80.417	0.00	0.00	0.004	0					0.00
80.500	0.00	0.00	0.004	0					0.00
80.583	0.00	0.00	0.004	0					0.00
80.667	0.00	0.00	0.004	0					0.00
80.750	0.00	0.00	0.004	0					0.00
80.833	0.00	0.00	0.004	0					0.00
80.917	0.00	0.00	0.004	0					0.00
81.000	0.00	0.00	0.004	0					0.00
81.083	0.00	0.00	0.004	0					0.00
81.167	0.00	0.00	0.004	0					0.00
81.250	0.00	0.00	0.004	0					0.00
81.333	0.00	0.00	0.004	0					0.00
81.417	0.00	0.00	0.004	0					0.00
81.500	0.00	0.00	0.004	0					0.00
81.583	0.00	0.00	0.003	0					0.00
81.667	0.00	0.00	0.003	0					0.00
81.750	0.00	0.00	0.003	0					0.00
81.833	0.00	0.00	0.003	0					0.00
81.917	0.00	0.00	0.003	0					0.00
82.000	0.00	0.00	0.003	0					0.00
82.083	0.00	0.00	0.003	0					0.00
82.167	0.00	0.00	0.003	0					0.00
82.250	0.00	0.00	0.003	0					0.00
82.333	0.00	0.00	0.003	0					0.00
82.417	0.00	0.00	0.003	0					0.00
82.500	0.00	0.00	0.003	0					0.00
82.583	0.00	0.00	0.003	0					0.00
82.667	0.00	0.00	0.003	0					0.00
82.750	0.00	0.00	0.003	0					0.00
82.833	0.00	0.00	0.003	0					0.00
82.917	0.00	0.00	0.003	0					0.00
83.000	0.00	0.00	0.003	0					0.00
83.083	0.00	0.00	0.003	0					0.00
83.167	0.00	0.00	0.003	0					0.00
83.250	0.00	0.00	0.003	0					0.00
83.333	0.00	0.00	0.003	0					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.00	0.003	o					0.00
83.500	0.00	0.00	0.003	o					0.00
83.583	0.00	0.00	0.003	o					0.00
83.667	0.00	0.00	0.003	o					0.00
83.750	0.00	0.00	0.003	o					0.00
83.833	0.00	0.00	0.003	o					0.00
83.917	0.00	0.00	0.003	o					0.00
84.000	0.00	0.00	0.003	o					0.00
84.083	0.00	0.00	0.003	o					0.00
84.167	0.00	0.00	0.003	o					0.00
84.250	0.00	0.00	0.003	o					0.00
84.333	0.00	0.00	0.003	o					0.00
84.417	0.00	0.00	0.003	o					0.00
84.500	0.00	0.00	0.003	o					0.00
84.583	0.00	0.00	0.003	o					0.00
84.667	0.00	0.00	0.003	o					0.00
84.750	0.00	0.00	0.003	o					0.00
84.833	0.00	0.00	0.003	o					0.00
84.917	0.00	0.00	0.003	o					0.00
85.000	0.00	0.00	0.003	o					0.00
85.083	0.00	0.00	0.003	o					0.00
85.167	0.00	0.00	0.002	o					0.00
85.250	0.00	0.00	0.002	o					0.00
85.333	0.00	0.00	0.002	o					0.00
85.417	0.00	0.00	0.002	o					0.00
85.500	0.00	0.00	0.002	o					0.00
85.583	0.00	0.00	0.002	o					0.00
85.667	0.00	0.00	0.002	o					0.00
85.750	0.00	0.00	0.002	o					0.00
85.833	0.00	0.00	0.002	o					0.00
85.917	0.00	0.00	0.002	o					0.00
86.000	0.00	0.00	0.002	o					0.00
86.083	0.00	0.00	0.002	o					0.00
86.167	0.00	0.00	0.002	o					0.00
86.250	0.00	0.00	0.002	o					0.00
86.333	0.00	0.00	0.002	o					0.00
86.417	0.00	0.00	0.002	o					0.00
86.500	0.00	0.00	0.002	o					0.00
86.583	0.00	0.00	0.002	o					0.00
86.667	0.00	0.00	0.002	o					0.00
86.750	0.00	0.00	0.002	o					0.00
86.833	0.00	0.00	0.002	o					0.00
86.917	0.00	0.00	0.002	o					0.00
87.000	0.00	0.00	0.002	o					0.00
87.083	0.00	0.00	0.002	o					0.00
87.167	0.00	0.00	0.002	o					0.00
87.250	0.00	0.00	0.002	o					0.00
87.333	0.00	0.00	0.002	o					0.00
87.417	0.00	0.00	0.002	o					0.00
87.500	0.00	0.00	0.002	o					0.00
87.583	0.00	0.00	0.002	o					0.00
87.667	0.00	0.00	0.002	o					0.00
87.750	0.00	0.00	0.002	o					0.00
87.833	0.00	0.00	0.002	o					0.00
87.917	0.00	0.00	0.002	o					0.00
88.000	0.00	0.00	0.002	o					0.00
88.083	0.00	0.00	0.002	o					0.00
88.167	0.00	0.00	0.002	o					0.00
88.250	0.00	0.00	0.002	o					0.00
88.333	0.00	0.00	0.002	o					0.00
88.417	0.00	0.00	0.002	o					0.00
88.500	0.00	0.00	0.002	o					0.00
88.583	0.00	0.00	0.002	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.00	0.002	o					0.00
88.750	0.00	0.00	0.002	o					0.00
88.833	0.00	0.00	0.002	o					0.00
88.917	0.00	0.00	0.002	o					0.00
89.000	0.00	0.00	0.002	o					0.00
89.083	0.00	0.00	0.002	o					0.00
89.167	0.00	0.00	0.002	o					0.00
89.250	0.00	0.00	0.002	o					0.00
89.333	0.00	0.00	0.002	o					0.00
89.417	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 1073
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 2.386 (CFS)
      Total volume = 4.314 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 5-year 3-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx5prh35.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 42  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 75.823 (CFS)  
 Total volume = 6.294 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 42  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	19.0	37.91	56.87	75.82	Depth (Ft.)
0.083	2.71	0.01	0.009	OI					0.01
0.167	8.12	0.05	0.046	O I					0.03
0.250	9.21	0.12	0.105	O I					0.06
0.333	9.89	0.19	0.170	O I					0.10
0.417	11.71	0.27	0.243	O I					0.14
0.500	12.91	0.37	0.326	O I					0.19
0.583	13.87	0.47	0.415	O I					0.25
0.667	13.67	0.57	0.506	O I					0.30
0.750	14.77	0.68	0.600	O I					0.35
0.833	14.48	0.78	0.696	O I					0.41
0.917	13.56	0.89	0.786	O I					0.46
1.000	14.13	0.99	0.875	O I					0.52
1.083	15.76	1.10	0.971	O I					0.57
1.167	17.66	1.22	1.078	O I					0.64
1.250	18.21	1.35	1.193	O I					0.70
1.333	18.04	1.48	1.308	O I					0.77
1.417	18.62	1.61	1.424	O I					0.84
1.500	21.19	1.75	1.549	O I					0.91
1.583	21.62	1.90	1.684	O I					0.99
1.667	21.37	1.94	1.819	O I					1.06
1.750	23.72	1.96	1.961	O I					1.13
1.833	26.10	2.00	2.119	O I					1.20
1.917	25.71	2.03	2.283	O I					1.28
2.000	25.22	2.06	2.444	O I					1.36
2.083	25.69	2.10	2.605	O I					1.43
2.167	28.50	2.13	2.777	O I					1.51
2.250	35.78	2.17	2.984	O I					1.61
2.333	38.14	2.22	3.223	O I					1.72
2.417	42.22	2.27	3.485	O I					1.85
2.500	62.75	2.34	3.830	O I			I		2.01
2.583	74.26	2.41	4.286	O I			I	I	2.18
2.667	75.82	2.47	4.786	O I			I	I	2.36
2.750	53.57	2.53	5.214	O I			I		2.52
2.833	30.16	2.57	5.485	O I	I				2.62
2.917	22.98	2.59	5.650	O I	I				2.68
3.000	16.96	2.61	5.770	O I	I				2.72
3.083	8.74	2.62	5.840	O I	I				2.75
3.167	3.45	2.62	5.864	O I					2.75
3.250	1.43	2.62	5.863	O I					2.75
3.333	0.73	2.62	5.852	O I					2.75
3.417	0.35	2.62	5.838	O I					2.74
3.500	0.08	2.61	5.822	O I					2.74
3.583	0.00	2.61	5.804	O I					2.73
3.667	0.00	2.61	5.786	O I					2.73
3.750	0.00	2.61	5.768	O I					2.72
3.833	0.00	2.60	5.750	O I					2.71
3.917	0.00	2.60	5.732	O I					2.71
4.000	0.00	2.60	5.714	O I					2.70
4.083	0.00	2.60	5.696	O I					2.69
4.167	0.00	2.59	5.678	O I					2.69
4.250	0.00	2.59	5.661	O I					2.68
4.333	0.00	2.59	5.643	O I					2.67
4.417	0.00	2.59	5.625	O I					2.67
4.500	0.00	2.58	5.607	O I					2.66
4.583	0.00	2.58	5.589	O I					2.65

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.667	0.00	2.58	5.572	IO					2.65
4.750	0.00	2.58	5.554	IO					2.64
4.833	0.00	2.57	5.536	IO					2.63
4.917	0.00	2.57	5.518	IO					2.63
5.000	0.00	2.57	5.501	IO					2.62
5.083	0.00	2.57	5.483	IO					2.61
5.167	0.00	2.57	5.465	IO					2.61
5.250	0.00	2.56	5.448	IO					2.60
5.333	0.00	2.56	5.430	IO					2.60
5.417	0.00	2.56	5.412	IO					2.59
5.500	0.00	2.56	5.395	IO					2.58
5.583	0.00	2.55	5.377	IO					2.58
5.667	0.00	2.55	5.360	IO					2.57
5.750	0.00	2.55	5.342	IO					2.56
5.833	0.00	2.55	5.324	IO					2.56
5.917	0.00	2.54	5.307	IO					2.55
6.000	0.00	2.54	5.289	IO					2.54
6.083	0.00	2.54	5.272	IO					2.54
6.167	0.00	2.54	5.254	IO					2.53
6.250	0.00	2.53	5.237	IO					2.52
6.333	0.00	2.53	5.220	IO					2.52
6.417	0.00	2.53	5.202	IO					2.51
6.500	0.00	2.53	5.185	IO					2.51
6.583	0.00	2.52	5.167	IO					2.50
6.667	0.00	2.52	5.150	IO					2.49
6.750	0.00	2.52	5.133	IO					2.49
6.833	0.00	2.52	5.115	IO					2.48
6.917	0.00	2.52	5.098	IO					2.47
7.000	0.00	2.51	5.081	IO					2.47
7.083	0.00	2.51	5.063	IO					2.46
7.167	0.00	2.51	5.046	IO					2.45
7.250	0.00	2.51	5.029	IO					2.45
7.333	0.00	2.50	5.011	IO					2.44
7.417	0.00	2.50	4.994	IO					2.44
7.500	0.00	2.50	4.977	IO					2.43
7.583	0.00	2.50	4.960	IO					2.42
7.667	0.00	2.49	4.943	IO					2.42
7.750	0.00	2.49	4.925	IO					2.41
7.833	0.00	2.49	4.908	IO					2.40
7.917	0.00	2.49	4.891	IO					2.40
8.000	0.00	2.48	4.874	IO					2.39
8.083	0.00	2.48	4.857	IO					2.39
8.167	0.00	2.48	4.840	IO					2.38
8.250	0.00	2.48	4.823	IO					2.37
8.333	0.00	2.48	4.806	IO					2.37
8.417	0.00	2.47	4.789	IO					2.36
8.500	0.00	2.47	4.772	IO					2.35
8.583	0.00	2.47	4.755	IO					2.35
8.667	0.00	2.47	4.738	IO					2.34
8.750	0.00	2.46	4.721	IO					2.34
8.833	0.00	2.46	4.704	IO					2.33
8.917	0.00	2.46	4.687	IO					2.32
9.000	0.00	2.46	4.670	IO					2.32
9.083	0.00	2.45	4.653	IO					2.31
9.167	0.00	2.45	4.636	IO					2.30
9.250	0.00	2.45	4.619	IO					2.30
9.333	0.00	2.45	4.602	IO					2.29
9.417	0.00	2.45	4.585	IO					2.29
9.500	0.00	2.44	4.569	IO					2.28
9.583	0.00	2.44	4.552	IO					2.27
9.667	0.00	2.44	4.535	IO					2.27
9.750	0.00	2.44	4.518	IO					2.26
9.833	0.00	2.43	4.501	IO					2.25



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.43	4.485	IO					2.25
10.000	0.00	2.43	4.468	IO					2.24
10.083	0.00	2.43	4.451	IO					2.24
10.167	0.00	2.43	4.434	IO					2.23
10.250	0.00	2.42	4.418	IO					2.22
10.333	0.00	2.42	4.401	IO					2.22
10.417	0.00	2.42	4.384	IO					2.21
10.500	0.00	2.42	4.368	IO					2.21
10.583	0.00	2.41	4.351	IO					2.20
10.667	0.00	2.41	4.335	IO					2.19
10.750	0.00	2.41	4.318	IO					2.19
10.833	0.00	2.41	4.301	IO					2.18
10.917	0.00	2.40	4.285	IO					2.18
11.000	0.00	2.40	4.268	IO					2.17
11.083	0.00	2.40	4.252	IO					2.16
11.167	0.00	2.40	4.235	IO					2.16
11.250	0.00	2.40	4.219	IO					2.15
11.333	0.00	2.39	4.202	IO					2.15
11.417	0.00	2.39	4.186	IO					2.14
11.500	0.00	2.39	4.169	IO					2.13
11.583	0.00	2.39	4.153	IO					2.13
11.667	0.00	2.38	4.136	IO					2.12
11.750	0.00	2.38	4.120	IO					2.12
11.833	0.00	2.38	4.103	IO					2.11
11.917	0.00	2.38	4.087	IO					2.10
12.000	0.00	2.38	4.071	IO					2.10
12.083	0.00	2.37	4.054	IO					2.09
12.167	0.00	2.37	4.038	IO					2.09
12.250	0.00	2.37	4.022	O					2.08
12.333	0.00	2.37	4.005	O					2.07
12.417	0.00	2.36	3.989	O					2.07
12.500	0.00	2.36	3.973	O					2.06
12.583	0.00	2.36	3.957	O					2.06
12.667	0.00	2.36	3.940	O					2.05
12.750	0.00	2.36	3.924	O					2.04
12.833	0.00	2.35	3.908	O					2.04
12.917	0.00	2.35	3.892	O					2.03
13.000	0.00	2.35	3.875	O					2.03
13.083	0.00	2.35	3.859	O					2.02
13.167	0.00	2.35	3.843	O					2.01
13.250	0.00	2.34	3.827	O					2.01
13.333	0.00	2.34	3.811	O					2.00
13.417	0.00	2.34	3.795	O					1.99
13.500	0.00	2.33	3.779	O					1.99
13.583	0.00	2.33	3.763	O					1.98
13.667	0.00	2.33	3.747	O					1.97
13.750	0.00	2.32	3.731	O					1.96
13.833	0.00	2.32	3.715	O					1.96
13.917	0.00	2.32	3.699	O					1.95
14.000	0.00	2.31	3.683	O					1.94
14.083	0.00	2.31	3.667	O					1.93
14.167	0.00	2.31	3.651	O					1.93
14.250	0.00	2.31	3.635	O					1.92
14.333	0.00	2.30	3.619	O					1.91
14.417	0.00	2.30	3.603	O					1.90
14.500	0.00	2.30	3.587	O					1.90
14.583	0.00	2.29	3.572	O					1.89
14.667	0.00	2.29	3.556	O					1.88
14.750	0.00	2.29	3.540	O					1.87
14.833	0.00	2.28	3.524	O					1.87
14.917	0.00	2.28	3.509	O					1.86
15.000	0.00	2.28	3.493	O					1.85
15.083	0.00	2.27	3.477	O					1.84

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	2.27	3.462	0					1.84
15.250	0.00	2.27	3.446	0					1.83
15.333	0.00	2.26	3.430	0					1.82
15.417	0.00	2.26	3.415	0					1.81
15.500	0.00	2.26	3.399	0					1.81
15.583	0.00	2.25	3.384	0					1.80
15.667	0.00	2.25	3.368	0					1.79
15.750	0.00	2.25	3.353	0					1.79
15.833	0.00	2.24	3.337	0					1.78
15.917	0.00	2.24	3.322	0					1.77
16.000	0.00	2.24	3.306	0					1.76
16.083	0.00	2.24	3.291	0					1.76
16.167	0.00	2.23	3.276	0					1.75
16.250	0.00	2.23	3.260	0					1.74
16.333	0.00	2.23	3.245	0					1.73
16.417	0.00	2.22	3.230	0					1.73
16.500	0.00	2.22	3.214	0					1.72
16.583	0.00	2.22	3.199	0					1.71
16.667	0.00	2.21	3.184	0					1.71
16.750	0.00	2.21	3.168	0					1.70
16.833	0.00	2.21	3.153	0					1.69
16.917	0.00	2.20	3.138	0					1.68
17.000	0.00	2.20	3.123	0					1.68
17.083	0.00	2.20	3.108	0					1.67
17.167	0.00	2.19	3.093	0					1.66
17.250	0.00	2.19	3.078	0					1.66
17.333	0.00	2.19	3.062	0					1.65
17.417	0.00	2.19	3.047	0					1.64
17.500	0.00	2.18	3.032	0					1.63
17.583	0.00	2.18	3.017	0					1.63
17.667	0.00	2.18	3.002	0					1.62
17.750	0.00	2.17	2.987	0					1.61
17.833	0.00	2.17	2.972	0					1.61
17.917	0.00	2.17	2.957	0					1.60
18.000	0.00	2.16	2.943	0					1.59
18.083	0.00	2.16	2.928	0					1.58
18.167	0.00	2.16	2.913	0					1.58
18.250	0.00	2.16	2.898	0					1.57
18.333	0.00	2.15	2.883	0					1.56
18.417	0.00	2.15	2.868	0					1.56
18.500	0.00	2.15	2.853	0					1.55
18.583	0.00	2.14	2.839	0					1.54
18.667	0.00	2.14	2.824	0					1.54
18.750	0.00	2.14	2.809	0					1.53
18.833	0.00	2.13	2.795	0					1.52
18.917	0.00	2.13	2.780	0					1.51
19.000	0.00	2.13	2.765	0					1.51
19.083	0.00	2.13	2.751	0					1.50
19.167	0.00	2.12	2.736	0					1.49
19.250	0.00	2.12	2.721	0					1.49
19.333	0.00	2.12	2.707	0					1.48
19.417	0.00	2.11	2.692	0					1.47
19.500	0.00	2.11	2.678	0					1.47
19.583	0.00	2.11	2.663	0					1.46
19.667	0.00	2.10	2.649	0					1.45
19.750	0.00	2.10	2.634	0					1.45
19.833	0.00	2.10	2.620	0					1.44
19.917	0.00	2.10	2.605	0					1.43
20.000	0.00	2.09	2.591	0					1.42
20.083	0.00	2.09	2.576	0					1.42
20.167	0.00	2.09	2.562	0					1.41
20.250	0.00	2.08	2.548	0					1.40
20.333	0.00	2.08	2.533	0					1.40

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.08	2.519	0					1.39
20.500	0.00	2.08	2.505	0					1.38
20.583	0.00	2.07	2.490	0					1.38
20.667	0.00	2.07	2.476	0					1.37
20.750	0.00	2.07	2.462	0					1.36
20.833	0.00	2.06	2.448	0					1.36
20.917	0.00	2.06	2.433	0					1.35
21.000	0.00	2.06	2.419	0					1.34
21.083	0.00	2.05	2.405	0					1.34
21.167	0.00	2.05	2.391	0					1.33
21.250	0.00	2.05	2.377	0					1.32
21.333	0.00	2.05	2.363	0					1.32
21.417	0.00	2.04	2.349	0					1.31
21.500	0.00	2.04	2.335	0					1.30
21.583	0.00	2.04	2.321	0					1.30
21.667	0.00	2.03	2.306	0					1.29
21.750	0.00	2.03	2.292	0					1.28
21.833	0.00	2.03	2.279	0					1.28
21.917	0.00	2.03	2.265	0					1.27
22.000	0.00	2.02	2.251	0					1.26
22.083	0.00	2.02	2.237	0					1.26
22.167	0.00	2.02	2.223	0					1.25
22.250	0.00	2.01	2.209	0					1.24
22.333	0.00	2.01	2.195	0					1.24
22.417	0.00	2.01	2.181	0					1.23
22.500	0.00	2.01	2.167	0					1.22
22.583	0.00	2.00	2.154	0					1.22
22.667	0.00	2.00	2.140	0					1.21
22.750	0.00	2.00	2.126	0					1.20
22.833	0.00	2.00	2.112	0					1.20
22.917	0.00	1.99	2.098	0					1.19
23.000	0.00	1.99	2.085	0					1.19
23.083	0.00	1.99	2.071	0					1.18
23.167	0.00	1.98	2.057	0					1.17
23.250	0.00	1.98	2.044	0					1.17
23.333	0.00	1.98	2.030	0					1.16
23.417	0.00	1.98	2.016	0					1.15
23.500	0.00	1.97	2.003	0					1.15
23.583	0.00	1.97	1.989	0					1.14
23.667	0.00	1.97	1.976	0					1.13
23.750	0.00	1.96	1.962	0					1.13
23.833	0.00	1.96	1.949	0					1.12
23.917	0.00	1.96	1.935	0					1.11
24.000	0.00	1.96	1.922	0					1.11
24.083	0.00	1.95	1.908	0					1.10
24.167	0.00	1.95	1.895	0					1.10
24.250	0.00	1.95	1.881	0					1.09
24.333	0.00	1.95	1.868	0					1.08
24.417	0.00	1.94	1.855	0					1.08
24.500	0.00	1.94	1.841	0					1.07
24.583	0.00	1.94	1.828	0					1.06
24.667	0.00	1.93	1.815	0					1.06
24.750	0.00	1.93	1.801	0					1.05
24.833	0.00	1.93	1.788	0					1.04
24.917	0.00	1.93	1.775	0					1.04
25.000	0.00	1.92	1.761	0					1.03
25.083	0.00	1.92	1.748	0					1.03
25.167	0.00	1.92	1.735	0					1.02
25.250	0.00	1.92	1.722	0					1.01
25.333	0.00	1.91	1.709	0					1.01
25.417	0.00	1.91	1.695	0					1.00
25.500	0.00	1.90	1.682	0					0.99
25.583	0.00	1.88	1.669	0					0.99

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	1.87	1.656	0					0.98
25.750	0.00	1.85	1.643	0					0.97
25.833	0.00	1.84	1.631	0					0.96
25.917	0.00	1.83	1.618	0					0.96
26.000	0.00	1.81	1.606	0					0.95
26.083	0.00	1.80	1.593	0					0.94
26.167	0.00	1.78	1.581	0					0.93
26.250	0.00	1.77	1.569	0					0.93
26.333	0.00	1.76	1.556	0					0.92
26.417	0.00	1.74	1.544	0					0.91
26.500	0.00	1.73	1.532	0					0.91
26.583	0.00	1.72	1.521	0					0.90
26.667	0.00	1.70	1.509	0					0.89
26.750	0.00	1.69	1.497	0					0.88
26.833	0.00	1.68	1.486	0					0.88
26.917	0.00	1.66	1.474	0					0.87
27.000	0.00	1.65	1.463	0					0.86
27.083	0.00	1.64	1.451	0					0.86
27.167	0.00	1.62	1.440	0					0.85
27.250	0.00	1.61	1.429	0					0.84
27.333	0.00	1.60	1.418	0					0.84
27.417	0.00	1.59	1.407	0					0.83
27.500	0.00	1.57	1.396	0					0.82
27.583	0.00	1.56	1.385	0					0.82
27.667	0.00	1.55	1.375	0					0.81
27.750	0.00	1.54	1.364	0					0.81
27.833	0.00	1.53	1.353	0					0.80
27.917	0.00	1.51	1.343	0					0.79
28.000	0.00	1.50	1.332	0					0.79
28.083	0.00	1.49	1.322	0					0.78
28.167	0.00	1.48	1.312	0					0.77
28.250	0.00	1.47	1.302	0					0.77
28.333	0.00	1.46	1.292	0					0.76
28.417	0.00	1.45	1.282	0					0.76
28.500	0.00	1.43	1.272	0					0.75
28.583	0.00	1.42	1.262	0					0.75
28.667	0.00	1.41	1.252	0					0.74
28.750	0.00	1.40	1.242	0					0.73
28.833	0.00	1.39	1.233	0					0.73
28.917	0.00	1.38	1.223	0					0.72
29.000	0.00	1.37	1.214	0					0.72
29.083	0.00	1.36	1.204	0					0.71
29.167	0.00	1.35	1.195	0					0.71
29.250	0.00	1.34	1.186	0					0.70
29.333	0.00	1.33	1.177	0					0.70
29.417	0.00	1.32	1.168	0					0.69
29.500	0.00	1.31	1.159	0					0.68
29.583	0.00	1.30	1.150	0					0.68
29.667	0.00	1.29	1.141	0					0.67
29.750	0.00	1.28	1.132	0					0.67
29.833	0.00	1.27	1.123	0					0.66
29.917	0.00	1.26	1.114	0					0.66
30.000	0.00	1.25	1.106	0					0.65
30.083	0.00	1.24	1.097	0					0.65
30.167	0.00	1.23	1.089	0					0.64
30.250	0.00	1.22	1.080	0					0.64
30.333	0.00	1.21	1.072	0					0.63
30.417	0.00	1.20	1.064	0					0.63
30.500	0.00	1.19	1.055	0					0.62
30.583	0.00	1.18	1.047	0					0.62
30.667	0.00	1.17	1.039	0					0.61
30.750	0.00	1.16	1.031	0					0.61
30.833	0.00	1.15	1.023	0					0.60

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	1.15	1.015	0					0.60
31.000	0.00	1.14	1.007	0					0.59
31.083	0.00	1.13	1.000	0					0.59
31.167	0.00	1.12	0.992	0					0.59
31.250	0.00	1.11	0.984	0					0.58
31.333	0.00	1.10	0.977	0					0.58
31.417	0.00	1.09	0.969	0					0.57
31.500	0.00	1.08	0.961	0					0.57
31.583	0.00	1.08	0.954	0					0.56
31.667	0.00	1.07	0.947	0					0.56
31.750	0.00	1.06	0.939	0					0.55
31.833	0.00	1.05	0.932	0					0.55
31.917	0.00	1.04	0.925	0					0.55
32.000	0.00	1.04	0.918	0					0.54
32.083	0.00	1.03	0.911	0					0.54
32.167	0.00	1.02	0.904	0					0.53
32.250	0.00	1.01	0.897	0					0.53
32.333	0.00	1.00	0.890	0					0.53
32.417	0.00	1.00	0.883	0					0.52
32.500	0.00	0.99	0.876	0					0.52
32.583	0.00	0.98	0.869	0					0.51
32.667	0.00	0.97	0.862	0					0.51
32.750	0.00	0.97	0.856	0					0.51
32.833	0.00	0.96	0.849	0					0.50
32.917	0.00	0.95	0.842	0					0.50
33.000	0.00	0.94	0.836	0					0.49
33.083	0.00	0.94	0.829	0					0.49
33.167	0.00	0.93	0.823	0					0.49
33.250	0.00	0.92	0.817	0					0.48
33.333	0.00	0.91	0.810	0					0.48
33.417	0.00	0.91	0.804	0					0.47
33.500	0.00	0.90	0.798	0					0.47
33.583	0.00	0.89	0.792	0					0.47
33.667	0.00	0.89	0.786	0					0.46
33.750	0.00	0.88	0.780	0					0.46
33.833	0.00	0.87	0.773	0					0.46
33.917	0.00	0.87	0.767	0					0.45
34.000	0.00	0.86	0.762	0					0.45
34.083	0.00	0.85	0.756	0					0.45
34.167	0.00	0.85	0.750	0					0.44
34.250	0.00	0.84	0.744	0					0.44
34.333	0.00	0.83	0.738	0					0.44
34.417	0.00	0.83	0.733	0					0.43
34.500	0.00	0.82	0.727	0					0.43
34.583	0.00	0.81	0.721	0					0.43
34.667	0.00	0.81	0.716	0					0.42
34.750	0.00	0.80	0.710	0					0.42
34.833	0.00	0.79	0.705	0					0.42
34.917	0.00	0.79	0.699	0					0.41
35.000	0.00	0.78	0.694	0					0.41
35.083	0.00	0.78	0.688	0					0.41
35.167	0.00	0.77	0.683	0					0.40
35.250	0.00	0.76	0.678	0					0.40
35.333	0.00	0.76	0.673	0					0.40
35.417	0.00	0.75	0.667	0					0.39
35.500	0.00	0.75	0.662	0					0.39
35.583	0.00	0.74	0.657	0					0.39
35.667	0.00	0.74	0.652	0					0.39
35.750	0.00	0.73	0.647	0					0.38
35.833	0.00	0.72	0.642	0					0.38
35.917	0.00	0.72	0.637	0					0.38
36.000	0.00	0.71	0.632	0					0.37
36.083	0.00	0.71	0.627	0					0.37

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	0.70	0.622	o					0.37
36.250	0.00	0.70	0.617	o					0.36
36.333	0.00	0.69	0.613	o					0.36
36.417	0.00	0.69	0.608	o					0.36
36.500	0.00	0.68	0.603	o					0.36
36.583	0.00	0.68	0.599	o					0.35
36.667	0.00	0.67	0.594	o					0.35
36.750	0.00	0.66	0.589	o					0.35
36.833	0.00	0.66	0.585	o					0.35
36.917	0.00	0.65	0.580	o					0.34
37.000	0.00	0.65	0.576	o					0.34
37.083	0.00	0.64	0.571	o					0.34
37.167	0.00	0.64	0.567	o					0.33
37.250	0.00	0.63	0.562	o					0.33
37.333	0.00	0.63	0.558	o					0.33
37.417	0.00	0.62	0.554	o					0.33
37.500	0.00	0.62	0.550	o					0.32
37.583	0.00	0.62	0.545	o					0.32
37.667	0.00	0.61	0.541	o					0.32
37.750	0.00	0.61	0.537	o					0.32
37.833	0.00	0.60	0.533	o					0.31
37.917	0.00	0.60	0.529	o					0.31
38.000	0.00	0.59	0.524	o					0.31
38.083	0.00	0.59	0.520	o					0.31
38.167	0.00	0.58	0.516	o					0.31
38.250	0.00	0.58	0.512	o					0.30
38.333	0.00	0.57	0.508	o					0.30
38.417	0.00	0.57	0.504	o					0.30
38.500	0.00	0.56	0.501	o					0.30
38.583	0.00	0.56	0.497	o					0.29
38.667	0.00	0.56	0.493	o					0.29
38.750	0.00	0.55	0.489	o					0.29
38.833	0.00	0.55	0.485	o					0.29
38.917	0.00	0.54	0.482	o					0.28
39.000	0.00	0.54	0.478	o					0.28
39.083	0.00	0.53	0.474	o					0.28
39.167	0.00	0.53	0.470	o					0.28
39.250	0.00	0.53	0.467	o					0.28
39.333	0.00	0.52	0.463	o					0.27
39.417	0.00	0.52	0.460	o					0.27
39.500	0.00	0.51	0.456	o					0.27
39.583	0.00	0.51	0.452	o					0.27
39.667	0.00	0.51	0.449	o					0.27
39.750	0.00	0.50	0.446	o					0.26
39.833	0.00	0.50	0.442	o					0.26
39.917	0.00	0.49	0.439	o					0.26
40.000	0.00	0.49	0.435	o					0.26
40.083	0.00	0.49	0.432	o					0.26
40.167	0.00	0.48	0.429	o					0.25
40.250	0.00	0.48	0.425	o					0.25
40.333	0.00	0.48	0.422	o					0.25
40.417	0.00	0.47	0.419	o					0.25
40.500	0.00	0.47	0.415	o					0.25
40.583	0.00	0.47	0.412	o					0.24
40.667	0.00	0.46	0.409	o					0.24
40.750	0.00	0.46	0.406	o					0.24
40.833	0.00	0.45	0.403	o					0.24
40.917	0.00	0.45	0.400	o					0.24
41.000	0.00	0.45	0.397	o					0.23
41.083	0.00	0.44	0.393	o					0.23
41.167	0.00	0.44	0.390	o					0.23
41.250	0.00	0.44	0.387	o					0.23
41.333	0.00	0.43	0.384	o					0.23

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	0.43	0.381	0					0.23
41.500	0.00	0.43	0.378	0					0.22
41.583	0.00	0.42	0.376	0					0.22
41.667	0.00	0.42	0.373	0					0.22
41.750	0.00	0.42	0.370	0					0.22
41.833	0.00	0.41	0.367	0					0.22
41.917	0.00	0.41	0.364	0					0.22
42.000	0.00	0.41	0.361	0					0.21
42.083	0.00	0.40	0.358	0					0.21
42.167	0.00	0.40	0.356	0					0.21
42.250	0.00	0.40	0.353	0					0.21
42.333	0.00	0.40	0.350	0					0.21
42.417	0.00	0.39	0.347	0					0.21
42.500	0.00	0.39	0.345	0					0.20
42.583	0.00	0.39	0.342	0					0.20
42.667	0.00	0.38	0.339	0					0.20
42.750	0.00	0.38	0.337	0					0.20
42.833	0.00	0.38	0.334	0					0.20
42.917	0.00	0.37	0.332	0					0.20
43.000	0.00	0.37	0.329	0					0.19
43.083	0.00	0.37	0.327	0					0.19
43.167	0.00	0.37	0.324	0					0.19
43.250	0.00	0.36	0.321	0					0.19
43.333	0.00	0.36	0.319	0					0.19
43.417	0.00	0.36	0.317	0					0.19
43.500	0.00	0.35	0.314	0					0.19
43.583	0.00	0.35	0.312	0					0.18
43.667	0.00	0.35	0.309	0					0.18
43.750	0.00	0.35	0.307	0					0.18
43.833	0.00	0.34	0.304	0					0.18
43.917	0.00	0.34	0.302	0					0.18
44.000	0.00	0.34	0.300	0					0.18
44.083	0.00	0.34	0.297	0					0.18
44.167	0.00	0.33	0.295	0					0.17
44.250	0.00	0.33	0.293	0					0.17
44.333	0.00	0.33	0.291	0					0.17
44.417	0.00	0.33	0.288	0					0.17
44.500	0.00	0.32	0.286	0					0.17
44.583	0.00	0.32	0.284	0					0.17
44.667	0.00	0.32	0.282	0					0.17
44.750	0.00	0.32	0.280	0					0.17
44.833	0.00	0.31	0.277	0					0.16
44.917	0.00	0.31	0.275	0					0.16
45.000	0.00	0.31	0.273	0					0.16
45.083	0.00	0.31	0.271	0					0.16
45.167	0.00	0.30	0.269	0					0.16
45.250	0.00	0.30	0.267	0					0.16
45.333	0.00	0.30	0.265	0					0.16
45.417	0.00	0.30	0.263	0					0.16
45.500	0.00	0.29	0.261	0					0.15
45.583	0.00	0.29	0.259	0					0.15
45.667	0.00	0.29	0.257	0					0.15
45.750	0.00	0.29	0.255	0					0.15
45.833	0.00	0.29	0.253	0					0.15
45.917	0.00	0.28	0.251	0					0.15
46.000	0.00	0.28	0.249	0					0.15
46.083	0.00	0.28	0.247	0					0.15
46.167	0.00	0.28	0.245	0					0.14
46.250	0.00	0.27	0.243	0					0.14
46.333	0.00	0.27	0.241	0					0.14
46.417	0.00	0.27	0.239	0					0.14
46.500	0.00	0.27	0.237	0					0.14
46.583	0.00	0.27	0.236	0					0.14

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.26	0.234	0					0.14
46.750	0.00	0.26	0.232	0					0.14
46.833	0.00	0.26	0.230	0					0.14
46.917	0.00	0.26	0.228	0					0.13
47.000	0.00	0.26	0.227	0					0.13
47.083	0.00	0.25	0.225	0					0.13
47.167	0.00	0.25	0.223	0					0.13
47.250	0.00	0.25	0.221	0					0.13
47.333	0.00	0.25	0.220	0					0.13
47.417	0.00	0.25	0.218	0					0.13
47.500	0.00	0.24	0.216	0					0.13
47.583	0.00	0.24	0.215	0					0.13
47.667	0.00	0.24	0.213	0					0.13
47.750	0.00	0.24	0.211	0					0.12
47.833	0.00	0.24	0.210	0					0.12
47.917	0.00	0.23	0.208	0					0.12
48.000	0.00	0.23	0.206	0					0.12
48.083	0.00	0.23	0.205	0					0.12
48.167	0.00	0.23	0.203	0					0.12
48.250	0.00	0.23	0.202	0					0.12
48.333	0.00	0.23	0.200	0					0.12
48.417	0.00	0.22	0.199	0					0.12
48.500	0.00	0.22	0.197	0					0.12
48.583	0.00	0.22	0.196	0					0.12
48.667	0.00	0.22	0.194	0					0.11
48.750	0.00	0.22	0.192	0					0.11
48.833	0.00	0.22	0.191	0					0.11
48.917	0.00	0.21	0.190	0					0.11
49.000	0.00	0.21	0.188	0					0.11
49.083	0.00	0.21	0.187	0					0.11
49.167	0.00	0.21	0.185	0					0.11
49.250	0.00	0.21	0.184	0					0.11
49.333	0.00	0.21	0.182	0					0.11
49.417	0.00	0.20	0.181	0					0.11
49.500	0.00	0.20	0.179	0					0.11
49.583	0.00	0.20	0.178	0					0.11
49.667	0.00	0.20	0.177	0					0.10
49.750	0.00	0.20	0.175	0					0.10
49.833	0.00	0.20	0.174	0					0.10
49.917	0.00	0.19	0.173	0					0.10
50.000	0.00	0.19	0.171	0					0.10
50.083	0.00	0.19	0.170	0					0.10
50.167	0.00	0.19	0.169	0					0.10
50.250	0.00	0.19	0.167	0					0.10
50.333	0.00	0.19	0.166	0					0.10
50.417	0.00	0.19	0.165	0					0.10
50.500	0.00	0.18	0.164	0					0.10
50.583	0.00	0.18	0.162	0					0.10
50.667	0.00	0.18	0.161	0					0.10
50.750	0.00	0.18	0.160	0					0.09
50.833	0.00	0.18	0.159	0					0.09
50.917	0.00	0.18	0.157	0					0.09
51.000	0.00	0.18	0.156	0					0.09
51.083	0.00	0.17	0.155	0					0.09
51.167	0.00	0.17	0.154	0					0.09
51.250	0.00	0.17	0.152	0					0.09
51.333	0.00	0.17	0.151	0					0.09
51.417	0.00	0.17	0.150	0					0.09
51.500	0.00	0.17	0.149	0					0.09
51.583	0.00	0.17	0.148	0					0.09
51.667	0.00	0.17	0.147	0					0.09
51.750	0.00	0.16	0.146	0					0.09
51.833	0.00	0.16	0.144	0					0.09



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.16	0.143	o					0.08
52.000	0.00	0.16	0.142	o					0.08
52.083	0.00	0.16	0.141	o					0.08
52.167	0.00	0.16	0.140	o					0.08
52.250	0.00	0.16	0.139	o					0.08
52.333	0.00	0.16	0.138	o					0.08
52.417	0.00	0.15	0.137	o					0.08
52.500	0.00	0.15	0.136	o					0.08
52.583	0.00	0.15	0.135	o					0.08
52.667	0.00	0.15	0.134	o					0.08
52.750	0.00	0.15	0.133	o					0.08
52.833	0.00	0.15	0.132	o					0.08
52.917	0.00	0.15	0.131	o					0.08
53.000	0.00	0.15	0.130	o					0.08
53.083	0.00	0.14	0.129	o					0.08
53.167	0.00	0.14	0.128	o					0.08
53.250	0.00	0.14	0.127	o					0.07
53.333	0.00	0.14	0.126	o					0.07
53.417	0.00	0.14	0.125	o					0.07
53.500	0.00	0.14	0.124	o					0.07
53.583	0.00	0.14	0.123	o					0.07
53.667	0.00	0.14	0.122	o					0.07
53.750	0.00	0.14	0.121	o					0.07
53.833	0.00	0.14	0.120	o					0.07
53.917	0.00	0.13	0.119	o					0.07
54.000	0.00	0.13	0.118	o					0.07
54.083	0.00	0.13	0.117	o					0.07
54.167	0.00	0.13	0.116	o					0.07
54.250	0.00	0.13	0.115	o					0.07
54.333	0.00	0.13	0.114	o					0.07
54.417	0.00	0.13	0.113	o					0.07
54.500	0.00	0.13	0.113	o					0.07
54.583	0.00	0.13	0.112	o					0.07
54.667	0.00	0.13	0.111	o					0.07
54.750	0.00	0.12	0.110	o					0.06
54.833	0.00	0.12	0.109	o					0.06
54.917	0.00	0.12	0.108	o					0.06
55.000	0.00	0.12	0.107	o					0.06
55.083	0.00	0.12	0.107	o					0.06
55.167	0.00	0.12	0.106	o					0.06
55.250	0.00	0.12	0.105	o					0.06
55.333	0.00	0.12	0.104	o					0.06
55.417	0.00	0.12	0.103	o					0.06
55.500	0.00	0.12	0.103	o					0.06
55.583	0.00	0.11	0.102	o					0.06
55.667	0.00	0.11	0.101	o					0.06
55.750	0.00	0.11	0.100	o					0.06
55.833	0.00	0.11	0.099	o					0.06
55.917	0.00	0.11	0.099	o					0.06
56.000	0.00	0.11	0.098	o					0.06
56.083	0.00	0.11	0.097	o					0.06
56.167	0.00	0.11	0.096	o					0.06
56.250	0.00	0.11	0.096	o					0.06
56.333	0.00	0.11	0.095	o					0.06
56.417	0.00	0.11	0.094	o					0.06
56.500	0.00	0.11	0.093	o					0.06
56.583	0.00	0.10	0.093	o					0.05
56.667	0.00	0.10	0.092	o					0.05
56.750	0.00	0.10	0.091	o					0.05
56.833	0.00	0.10	0.091	o					0.05
56.917	0.00	0.10	0.090	o					0.05
57.000	0.00	0.10	0.089	o					0.05
57.083	0.00	0.10	0.089	o					0.05

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.10	0.088	o					0.05
57.250	0.00	0.10	0.087	o					0.05
57.333	0.00	0.10	0.086	o					0.05
57.417	0.00	0.10	0.086	o					0.05
57.500	0.00	0.10	0.085	o					0.05
57.583	0.00	0.10	0.084	o					0.05
57.667	0.00	0.09	0.084	o					0.05
57.750	0.00	0.09	0.083	o					0.05
57.833	0.00	0.09	0.083	o					0.05
57.917	0.00	0.09	0.082	o					0.05
58.000	0.00	0.09	0.081	o					0.05
58.083	0.00	0.09	0.081	o					0.05
58.167	0.00	0.09	0.080	o					0.05
58.250	0.00	0.09	0.079	o					0.05
58.333	0.00	0.09	0.079	o					0.05
58.417	0.00	0.09	0.078	o					0.05
58.500	0.00	0.09	0.078	o					0.05
58.583	0.00	0.09	0.077	o					0.05
58.667	0.00	0.09	0.076	o					0.05
58.750	0.00	0.09	0.076	o					0.04
58.833	0.00	0.08	0.075	o					0.04
58.917	0.00	0.08	0.075	o					0.04
59.000	0.00	0.08	0.074	o					0.04
59.083	0.00	0.08	0.073	o					0.04
59.167	0.00	0.08	0.073	o					0.04
59.250	0.00	0.08	0.072	o					0.04
59.333	0.00	0.08	0.072	o					0.04
59.417	0.00	0.08	0.071	o					0.04
59.500	0.00	0.08	0.071	o					0.04
59.583	0.00	0.08	0.070	o					0.04
59.667	0.00	0.08	0.070	o					0.04
59.750	0.00	0.08	0.069	o					0.04
59.833	0.00	0.08	0.068	o					0.04
59.917	0.00	0.08	0.068	o					0.04
60.000	0.00	0.08	0.067	o					0.04
60.083	0.00	0.08	0.067	o					0.04
60.167	0.00	0.07	0.066	o					0.04
60.250	0.00	0.07	0.066	o					0.04
60.333	0.00	0.07	0.065	o					0.04
60.417	0.00	0.07	0.065	o					0.04
60.500	0.00	0.07	0.064	o					0.04
60.583	0.00	0.07	0.064	o					0.04
60.667	0.00	0.07	0.063	o					0.04
60.750	0.00	0.07	0.063	o					0.04
60.833	0.00	0.07	0.062	o					0.04
60.917	0.00	0.07	0.062	o					0.04
61.000	0.00	0.07	0.061	o					0.04
61.083	0.00	0.07	0.061	o					0.04
61.167	0.00	0.07	0.060	o					0.04
61.250	0.00	0.07	0.060	o					0.04
61.333	0.00	0.07	0.060	o					0.04
61.417	0.00	0.07	0.059	o					0.03
61.500	0.00	0.07	0.059	o					0.03
61.583	0.00	0.07	0.058	o					0.03
61.667	0.00	0.07	0.058	o					0.03
61.750	0.00	0.06	0.057	o					0.03
61.833	0.00	0.06	0.057	o					0.03
61.917	0.00	0.06	0.056	o					0.03
62.000	0.00	0.06	0.056	o					0.03
62.083	0.00	0.06	0.056	o					0.03
62.167	0.00	0.06	0.055	o					0.03
62.250	0.00	0.06	0.055	o					0.03
62.333	0.00	0.06	0.054	o					0.03

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.06	0.054	0					0.03
62.500	0.00	0.06	0.053	0					0.03
62.583	0.00	0.06	0.053	0					0.03
62.667	0.00	0.06	0.053	0					0.03
62.750	0.00	0.06	0.052	0					0.03
62.833	0.00	0.06	0.052	0					0.03
62.917	0.00	0.06	0.051	0					0.03
63.000	0.00	0.06	0.051	0					0.03
63.083	0.00	0.06	0.051	0					0.03
63.167	0.00	0.06	0.050	0					0.03
63.250	0.00	0.06	0.050	0					0.03
63.333	0.00	0.06	0.049	0					0.03
63.417	0.00	0.06	0.049	0					0.03
63.500	0.00	0.05	0.049	0					0.03
63.583	0.00	0.05	0.048	0					0.03
63.667	0.00	0.05	0.048	0					0.03
63.750	0.00	0.05	0.048	0					0.03
63.833	0.00	0.05	0.047	0					0.03
63.917	0.00	0.05	0.047	0					0.03
64.000	0.00	0.05	0.046	0					0.03
64.083	0.00	0.05	0.046	0					0.03
64.167	0.00	0.05	0.046	0					0.03
64.250	0.00	0.05	0.045	0					0.03
64.333	0.00	0.05	0.045	0					0.03
64.417	0.00	0.05	0.045	0					0.03
64.500	0.00	0.05	0.044	0					0.03
64.583	0.00	0.05	0.044	0					0.03
64.667	0.00	0.05	0.044	0					0.03
64.750	0.00	0.05	0.043	0					0.03
64.833	0.00	0.05	0.043	0					0.03
64.917	0.00	0.05	0.043	0					0.03
65.000	0.00	0.05	0.042	0					0.02
65.083	0.00	0.05	0.042	0					0.02
65.167	0.00	0.05	0.042	0					0.02
65.250	0.00	0.05	0.041	0					0.02
65.333	0.00	0.05	0.041	0					0.02
65.417	0.00	0.05	0.041	0					0.02
65.500	0.00	0.05	0.040	0					0.02
65.583	0.00	0.05	0.040	0					0.02
65.667	0.00	0.04	0.040	0					0.02
65.750	0.00	0.04	0.039	0					0.02
65.833	0.00	0.04	0.039	0					0.02
65.917	0.00	0.04	0.039	0					0.02
66.000	0.00	0.04	0.039	0					0.02
66.083	0.00	0.04	0.038	0					0.02
66.167	0.00	0.04	0.038	0					0.02
66.250	0.00	0.04	0.038	0					0.02
66.333	0.00	0.04	0.037	0					0.02
66.417	0.00	0.04	0.037	0					0.02
66.500	0.00	0.04	0.037	0					0.02
66.583	0.00	0.04	0.037	0					0.02
66.667	0.00	0.04	0.036	0					0.02
66.750	0.00	0.04	0.036	0					0.02
66.833	0.00	0.04	0.036	0					0.02
66.917	0.00	0.04	0.035	0					0.02
67.000	0.00	0.04	0.035	0					0.02
67.083	0.00	0.04	0.035	0					0.02
67.167	0.00	0.04	0.035	0					0.02
67.250	0.00	0.04	0.034	0					0.02
67.333	0.00	0.04	0.034	0					0.02
67.417	0.00	0.04	0.034	0					0.02
67.500	0.00	0.04	0.034	0					0.02
67.583	0.00	0.04	0.033	0					0.02

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### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.04	0.033	0					0.02
67.750	0.00	0.04	0.033	0					0.02
67.833	0.00	0.04	0.032	0					0.02
67.917	0.00	0.04	0.032	0					0.02
68.000	0.00	0.04	0.032	0					0.02
68.083	0.00	0.04	0.032	0					0.02
68.167	0.00	0.04	0.031	0					0.02
68.250	0.00	0.04	0.031	0					0.02
68.333	0.00	0.03	0.031	0					0.02
68.417	0.00	0.03	0.031	0					0.02
68.500	0.00	0.03	0.031	0					0.02
68.583	0.00	0.03	0.030	0					0.02
68.667	0.00	0.03	0.030	0					0.02
68.750	0.00	0.03	0.030	0					0.02
68.833	0.00	0.03	0.030	0					0.02
68.917	0.00	0.03	0.029	0					0.02
69.000	0.00	0.03	0.029	0					0.02
69.083	0.00	0.03	0.029	0					0.02
69.167	0.00	0.03	0.029	0					0.02
69.250	0.00	0.03	0.028	0					0.02
69.333	0.00	0.03	0.028	0					0.02
69.417	0.00	0.03	0.028	0					0.02
69.500	0.00	0.03	0.028	0					0.02
69.583	0.00	0.03	0.028	0					0.02
69.667	0.00	0.03	0.027	0					0.02
69.750	0.00	0.03	0.027	0					0.02
69.833	0.00	0.03	0.027	0					0.02
69.917	0.00	0.03	0.027	0					0.02
70.000	0.00	0.03	0.027	0					0.02
70.083	0.00	0.03	0.026	0					0.02
70.167	0.00	0.03	0.026	0					0.02
70.250	0.00	0.03	0.026	0					0.02
70.333	0.00	0.03	0.026	0					0.02
70.417	0.00	0.03	0.026	0					0.02
70.500	0.00	0.03	0.025	0					0.01
70.583	0.00	0.03	0.025	0					0.01
70.667	0.00	0.03	0.025	0					0.01
70.750	0.00	0.03	0.025	0					0.01
70.833	0.00	0.03	0.025	0					0.01
70.917	0.00	0.03	0.024	0					0.01
71.000	0.00	0.03	0.024	0					0.01
71.083	0.00	0.03	0.024	0					0.01
71.167	0.00	0.03	0.024	0					0.01
71.250	0.00	0.03	0.024	0					0.01
71.333	0.00	0.03	0.023	0					0.01
71.417	0.00	0.03	0.023	0					0.01
71.500	0.00	0.03	0.023	0					0.01
71.583	0.00	0.03	0.023	0					0.01
71.667	0.00	0.03	0.023	0					0.01
71.750	0.00	0.03	0.023	0					0.01
71.833	0.00	0.03	0.022	0					0.01
71.917	0.00	0.03	0.022	0					0.01
72.000	0.00	0.02	0.022	0					0.01
72.083	0.00	0.02	0.022	0					0.01
72.167	0.00	0.02	0.022	0					0.01
72.250	0.00	0.02	0.022	0					0.01
72.333	0.00	0.02	0.021	0					0.01
72.417	0.00	0.02	0.021	0					0.01
72.500	0.00	0.02	0.021	0					0.01
72.583	0.00	0.02	0.021	0					0.01
72.667	0.00	0.02	0.021	0					0.01
72.750	0.00	0.02	0.021	0					0.01
72.833	0.00	0.02	0.020	0					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.02	0.020	o					0.01
73.000	0.00	0.02	0.020	o					0.01
73.083	0.00	0.02	0.020	o					0.01
73.167	0.00	0.02	0.020	o					0.01
73.250	0.00	0.02	0.020	o					0.01
73.333	0.00	0.02	0.019	o					0.01
73.417	0.00	0.02	0.019	o					0.01
73.500	0.00	0.02	0.019	o					0.01
73.583	0.00	0.02	0.019	o					0.01
73.667	0.00	0.02	0.019	o					0.01
73.750	0.00	0.02	0.019	o					0.01
73.833	0.00	0.02	0.019	o					0.01
73.917	0.00	0.02	0.018	o					0.01
74.000	0.00	0.02	0.018	o					0.01
74.083	0.00	0.02	0.018	o					0.01
74.167	0.00	0.02	0.018	o					0.01
74.250	0.00	0.02	0.018	o					0.01
74.333	0.00	0.02	0.018	o					0.01
74.417	0.00	0.02	0.018	o					0.01
74.500	0.00	0.02	0.017	o					0.01
74.583	0.00	0.02	0.017	o					0.01
74.667	0.00	0.02	0.017	o					0.01
74.750	0.00	0.02	0.017	o					0.01
74.833	0.00	0.02	0.017	o					0.01
74.917	0.00	0.02	0.017	o					0.01
75.000	0.00	0.02	0.017	o					0.01
75.083	0.00	0.02	0.017	o					0.01
75.167	0.00	0.02	0.016	o					0.01
75.250	0.00	0.02	0.016	o					0.01
75.333	0.00	0.02	0.016	o					0.01
75.417	0.00	0.02	0.016	o					0.01
75.500	0.00	0.02	0.016	o					0.01
75.583	0.00	0.02	0.016	o					0.01
75.667	0.00	0.02	0.016	o					0.01
75.750	0.00	0.02	0.016	o					0.01
75.833	0.00	0.02	0.015	o					0.01
75.917	0.00	0.02	0.015	o					0.01
76.000	0.00	0.02	0.015	o					0.01
76.083	0.00	0.02	0.015	o					0.01
76.167	0.00	0.02	0.015	o					0.01
76.250	0.00	0.02	0.015	o					0.01
76.333	0.00	0.02	0.015	o					0.01
76.417	0.00	0.02	0.015	o					0.01
76.500	0.00	0.02	0.014	o					0.01
76.583	0.00	0.02	0.014	o					0.01
76.667	0.00	0.02	0.014	o					0.01
76.750	0.00	0.02	0.014	o					0.01
76.833	0.00	0.02	0.014	o					0.01
76.917	0.00	0.02	0.014	o					0.01
77.000	0.00	0.02	0.014	o					0.01
77.083	0.00	0.02	0.014	o					0.01
77.167	0.00	0.02	0.014	o					0.01
77.250	0.00	0.02	0.014	o					0.01
77.333	0.00	0.02	0.013	o					0.01
77.417	0.00	0.01	0.013	o					0.01
77.500	0.00	0.01	0.013	o					0.01
77.583	0.00	0.01	0.013	o					0.01
77.667	0.00	0.01	0.013	o					0.01
77.750	0.00	0.01	0.013	o					0.01
77.833	0.00	0.01	0.013	o					0.01
77.917	0.00	0.01	0.013	o					0.01
78.000	0.00	0.01	0.013	o					0.01
78.083	0.00	0.01	0.012	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.01	0.012	o					0.01
78.250	0.00	0.01	0.012	o					0.01
78.333	0.00	0.01	0.012	o					0.01
78.417	0.00	0.01	0.012	o					0.01
78.500	0.00	0.01	0.012	o					0.01
78.583	0.00	0.01	0.012	o					0.01
78.667	0.00	0.01	0.012	o					0.01
78.750	0.00	0.01	0.012	o					0.01
78.833	0.00	0.01	0.012	o					0.01
78.917	0.00	0.01	0.012	o					0.01
79.000	0.00	0.01	0.011	o					0.01
79.083	0.00	0.01	0.011	o					0.01
79.167	0.00	0.01	0.011	o					0.01
79.250	0.00	0.01	0.011	o					0.01
79.333	0.00	0.01	0.011	o					0.01
79.417	0.00	0.01	0.011	o					0.01
79.500	0.00	0.01	0.011	o					0.01
79.583	0.00	0.01	0.011	o					0.01
79.667	0.00	0.01	0.011	o					0.01
79.750	0.00	0.01	0.011	o					0.01
79.833	0.00	0.01	0.011	o					0.01
79.917	0.00	0.01	0.011	o					0.01
80.000	0.00	0.01	0.010	o					0.01
80.083	0.00	0.01	0.010	o					0.01
80.167	0.00	0.01	0.010	o					0.01
80.250	0.00	0.01	0.010	o					0.01
80.333	0.00	0.01	0.010	o					0.01
80.417	0.00	0.01	0.010	o					0.01
80.500	0.00	0.01	0.010	o					0.01
80.583	0.00	0.01	0.010	o					0.01
80.667	0.00	0.01	0.010	o					0.01
80.750	0.00	0.01	0.010	o					0.01
80.833	0.00	0.01	0.010	o					0.01
80.917	0.00	0.01	0.010	o					0.01
81.000	0.00	0.01	0.010	o					0.01
81.083	0.00	0.01	0.009	o					0.01
81.167	0.00	0.01	0.009	o					0.01
81.250	0.00	0.01	0.009	o					0.01
81.333	0.00	0.01	0.009	o					0.01
81.417	0.00	0.01	0.009	o					0.01
81.500	0.00	0.01	0.009	o					0.01
81.583	0.00	0.01	0.009	o					0.01
81.667	0.00	0.01	0.009	o					0.01
81.750	0.00	0.01	0.009	o					0.01
81.833	0.00	0.01	0.009	o					0.01
81.917	0.00	0.01	0.009	o					0.01
82.000	0.00	0.01	0.009	o					0.01
82.083	0.00	0.01	0.009	o					0.01
82.167	0.00	0.01	0.009	o					0.01
82.250	0.00	0.01	0.008	o					0.01
82.333	0.00	0.01	0.008	o					0.00
82.417	0.00	0.01	0.008	o					0.00
82.500	0.00	0.01	0.008	o					0.00
82.583	0.00	0.01	0.008	o					0.00
82.667	0.00	0.01	0.008	o					0.00
82.750	0.00	0.01	0.008	o					0.00
82.833	0.00	0.01	0.008	o					0.00
82.917	0.00	0.01	0.008	o					0.00
83.000	0.00	0.01	0.008	o					0.00
83.083	0.00	0.01	0.008	o					0.00
83.167	0.00	0.01	0.008	o					0.00
83.250	0.00	0.01	0.008	o					0.00
83.333	0.00	0.01	0.008	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.01	0.008	o					0.00
83.500	0.00	0.01	0.008	o					0.00
83.583	0.00	0.01	0.007	o					0.00
83.667	0.00	0.01	0.007	o					0.00
83.750	0.00	0.01	0.007	o					0.00
83.833	0.00	0.01	0.007	o					0.00
83.917	0.00	0.01	0.007	o					0.00
84.000	0.00	0.01	0.007	o					0.00
84.083	0.00	0.01	0.007	o					0.00
84.167	0.00	0.01	0.007	o					0.00
84.250	0.00	0.01	0.007	o					0.00
84.333	0.00	0.01	0.007	o					0.00
84.417	0.00	0.01	0.007	o					0.00
84.500	0.00	0.01	0.007	o					0.00
84.583	0.00	0.01	0.007	o					0.00
84.667	0.00	0.01	0.007	o					0.00
84.750	0.00	0.01	0.007	o					0.00
84.833	0.00	0.01	0.007	o					0.00
84.917	0.00	0.01	0.007	o					0.00
85.000	0.00	0.01	0.007	o					0.00
85.083	0.00	0.01	0.007	o					0.00
85.167	0.00	0.01	0.006	o					0.00
85.250	0.00	0.01	0.006	o					0.00
85.333	0.00	0.01	0.006	o					0.00
85.417	0.00	0.01	0.006	o					0.00
85.500	0.00	0.01	0.006	o					0.00
85.583	0.00	0.01	0.006	o					0.00
85.667	0.00	0.01	0.006	o					0.00
85.750	0.00	0.01	0.006	o					0.00
85.833	0.00	0.01	0.006	o					0.00
85.917	0.00	0.01	0.006	o					0.00
86.000	0.00	0.01	0.006	o					0.00
86.083	0.00	0.01	0.006	o					0.00
86.167	0.00	0.01	0.006	o					0.00
86.250	0.00	0.01	0.006	o					0.00
86.333	0.00	0.01	0.006	o					0.00
86.417	0.00	0.01	0.006	o					0.00
86.500	0.00	0.01	0.006	o					0.00
86.583	0.00	0.01	0.006	o					0.00
86.667	0.00	0.01	0.006	o					0.00
86.750	0.00	0.01	0.006	o					0.00
86.833	0.00	0.01	0.006	o					0.00
86.917	0.00	0.01	0.006	o					0.00
87.000	0.00	0.01	0.005	o					0.00
87.083	0.00	0.01	0.005	o					0.00
87.167	0.00	0.01	0.005	o					0.00
87.250	0.00	0.01	0.005	o					0.00
87.333	0.00	0.01	0.005	o					0.00
87.417	0.00	0.01	0.005	o					0.00
87.500	0.00	0.01	0.005	o					0.00
87.583	0.00	0.01	0.005	o					0.00
87.667	0.00	0.01	0.005	o					0.00
87.750	0.00	0.01	0.005	o					0.00
87.833	0.00	0.01	0.005	o					0.00
87.917	0.00	0.01	0.005	o					0.00
88.000	0.00	0.01	0.005	o					0.00
88.083	0.00	0.01	0.005	o					0.00
88.167	0.00	0.01	0.005	o					0.00
88.250	0.00	0.01	0.005	o					0.00
88.333	0.00	0.01	0.005	o					0.00
88.417	0.00	0.01	0.005	o					0.00
88.500	0.00	0.01	0.005	o					0.00
88.583	0.00	0.01	0.005	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.01	0.005	o					0.00
88.750	0.00	0.01	0.005	o					0.00
88.833	0.00	0.01	0.005	o					0.00
88.917	0.00	0.01	0.005	o					0.00
89.000	0.00	0.01	0.005	o					0.00
89.083	0.00	0.01	0.004	o					0.00
89.167	0.00	0.01	0.004	o					0.00
89.250	0.00	0.00	0.004	o					0.00
89.333	0.00	0.00	0.004	o					0.00
89.417	0.00	0.00	0.004	o					0.00
89.500	0.00	0.00	0.004	o					0.00
89.583	0.00	0.00	0.004	o					0.00
89.667	0.00	0.00	0.004	o					0.00
89.750	0.00	0.00	0.004	o					0.00
89.833	0.00	0.00	0.004	o					0.00
89.917	0.00	0.00	0.004	o					0.00
90.000	0.00	0.00	0.004	o					0.00
90.083	0.00	0.00	0.004	o					0.00
90.167	0.00	0.00	0.004	o					0.00
90.250	0.00	0.00	0.004	o					0.00
90.333	0.00	0.00	0.004	o					0.00
90.417	0.00	0.00	0.004	o					0.00
90.500	0.00	0.00	0.004	o					0.00
90.583	0.00	0.00	0.004	o					0.00
90.667	0.00	0.00	0.004	o					0.00
90.750	0.00	0.00	0.004	o					0.00
90.833	0.00	0.00	0.004	o					0.00
90.917	0.00	0.00	0.004	o					0.00
91.000	0.00	0.00	0.004	o					0.00
91.083	0.00	0.00	0.004	o					0.00
91.167	0.00	0.00	0.004	o					0.00
91.250	0.00	0.00	0.004	o					0.00
91.333	0.00	0.00	0.004	o					0.00
91.417	0.00	0.00	0.004	o					0.00
91.500	0.00	0.00	0.004	o					0.00
91.583	0.00	0.00	0.004	o					0.00
91.667	0.00	0.00	0.004	o					0.00
91.750	0.00	0.00	0.003	o					0.00
91.833	0.00	0.00	0.003	o					0.00
91.917	0.00	0.00	0.003	o					0.00
92.000	0.00	0.00	0.003	o					0.00
92.083	0.00	0.00	0.003	o					0.00
92.167	0.00	0.00	0.003	o					0.00
92.250	0.00	0.00	0.003	o					0.00
92.333	0.00	0.00	0.003	o					0.00
92.417	0.00	0.00	0.003	o					0.00
92.500	0.00	0.00	0.003	o					0.00
92.583	0.00	0.00	0.003	o					0.00
92.667	0.00	0.00	0.003	o					0.00
92.750	0.00	0.00	0.003	o					0.00
92.833	0.00	0.00	0.003	o					0.00
92.917	0.00	0.00	0.003	o					0.00
93.000	0.00	0.00	0.003	o					0.00
93.083	0.00	0.00	0.003	o					0.00
93.167	0.00	0.00	0.003	o					0.00
93.250	0.00	0.00	0.003	o					0.00
93.333	0.00	0.00	0.003	o					0.00
93.417	0.00	0.00	0.003	o					0.00
93.500	0.00	0.00	0.003	o					0.00
93.583	0.00	0.00	0.003	o					0.00
93.667	0.00	0.00	0.003	o					0.00
93.750	0.00	0.00	0.003	o					0.00
93.833	0.00	0.00	0.003	o					0.00



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.00	0.003	o					0.00
94.000	0.00	0.00	0.003	o					0.00
94.083	0.00	0.00	0.003	o					0.00
94.167	0.00	0.00	0.003	o					0.00
94.250	0.00	0.00	0.003	o					0.00
94.333	0.00	0.00	0.003	o					0.00
94.417	0.00	0.00	0.003	o					0.00
94.500	0.00	0.00	0.003	o					0.00
94.583	0.00	0.00	0.003	o					0.00
94.667	0.00	0.00	0.003	o					0.00
94.750	0.00	0.00	0.003	o					0.00
94.833	0.00	0.00	0.003	o					0.00
94.917	0.00	0.00	0.003	o					0.00
95.000	0.00	0.00	0.003	o					0.00
95.083	0.00	0.00	0.003	o					0.00
95.167	0.00	0.00	0.003	o					0.00
95.250	0.00	0.00	0.003	o					0.00
95.333	0.00	0.00	0.003	o					0.00
95.417	0.00	0.00	0.002	o					0.00
95.500	0.00	0.00	0.002	o					0.00
95.583	0.00	0.00	0.002	o					0.00
95.667	0.00	0.00	0.002	o					0.00
95.750	0.00	0.00	0.002	o					0.00
95.833	0.00	0.00	0.002	o					0.00
95.917	0.00	0.00	0.002	o					0.00
96.000	0.00	0.00	0.002	o					0.00
96.083	0.00	0.00	0.002	o					0.00
96.167	0.00	0.00	0.002	o					0.00
96.250	0.00	0.00	0.002	o					0.00
96.333	0.00	0.00	0.002	o					0.00
96.417	0.00	0.00	0.002	o					0.00
96.500	0.00	0.00	0.002	o					0.00
96.583	0.00	0.00	0.002	o					0.00
96.667	0.00	0.00	0.002	o					0.00
96.750	0.00	0.00	0.002	o					0.00
96.833	0.00	0.00	0.002	o					0.00
96.917	0.00	0.00	0.002	o					0.00
97.000	0.00	0.00	0.002	o					0.00
97.083	0.00	0.00	0.002	o					0.00
97.167	0.00	0.00	0.002	o					0.00
97.250	0.00	0.00	0.002	o					0.00
97.333	0.00	0.00	0.002	o					0.00
97.417	0.00	0.00	0.002	o					0.00
97.500	0.00	0.00	0.002	o					0.00
97.583	0.00	0.00	0.002	o					0.00
97.667	0.00	0.00	0.002	o					0.00
97.750	0.00	0.00	0.002	o					0.00
97.833	0.00	0.00	0.002	o					0.00
97.917	0.00	0.00	0.002	o					0.00
98.000	0.00	0.00	0.002	o					0.00
98.083	0.00	0.00	0.002	o					0.00
98.167	0.00	0.00	0.002	o					0.00
98.250	0.00	0.00	0.002	o					0.00
98.333	0.00	0.00	0.002	o					0.00
98.417	0.00	0.00	0.002	o					0.00
98.500	0.00	0.00	0.002	o					0.00
98.583	0.00	0.00	0.002	o					0.00
98.667	0.00	0.00	0.002	o					0.00
98.750	0.00	0.00	0.002	o					0.00
98.833	0.00	0.00	0.002	o					0.00
98.917	0.00	0.00	0.002	o					0.00
99.000	0.00	0.00	0.002	o					0.00
99.083	0.00	0.00	0.002	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.00	0.002	o					0.00
99.250	0.00	0.00	0.002	o					0.00
99.333	0.00	0.00	0.002	o					0.00
99.417	0.00	0.00	0.002	o					0.00
99.500	0.00	0.00	0.002	o					0.00
99.583	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

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*****HYDROGRAPH DATA*****
      Number of intervals = 1195
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 2.619 (CFS)
      Total volume = 6.292 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 5-year 6-hour storm  
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Program License Serial Number 4029

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 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx5prh65.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 78  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 67.491 (CFS)  
 Total volume = 8.503 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)          0.000    0.000    0.000    0.000    0.000  
 Vol (Ac.Ft)         0.000    0.000    0.000    0.000    0.000  
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 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

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 User entry of depth-outflow-storage data  
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Total number of inflow hydrograph intervals = 78  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
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Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
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 Depth vs. Storage and Depth vs. Discharge data:  
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Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)					Depth (Ft.)	
			.0	16.9	33.75	50.62	67.49		
0.083	1.45	0.01	0.005	O					0.00
0.167	4.64	0.03	0.026	O I					0.02
0.250	6.02	0.07	0.062	O I					0.04
0.333	6.55	0.12	0.105	O I					0.06
0.417	6.83	0.17	0.150	O I					0.09
0.500	7.28	0.22	0.197	O I					0.12
0.583	7.97	0.28	0.248	O I					0.15
0.667	8.15	0.34	0.301	O I					0.18
0.750	8.23	0.40	0.355	O I					0.21
0.833	8.27	0.46	0.409	O I					0.24
0.917	8.29	0.52	0.463	O I					0.27
1.000	8.60	0.58	0.517	O I					0.31
1.083	9.18	0.65	0.574	O I					0.34
1.167	9.34	0.71	0.633	O I					0.37
1.250	9.42	0.78	0.693	O I					0.41
1.333	9.46	0.85	0.752	O I					0.44
1.417	9.48	0.92	0.811	O I					0.48
1.500	9.50	0.98	0.870	O I					0.51
1.583	9.50	1.05	0.928	O I					0.55
1.667	9.50	1.11	0.986	O I					0.58
1.750	9.50	1.18	1.044	O I					0.62
1.833	9.50	1.24	1.101	O I					0.65
1.917	9.50	1.31	1.158	O I					0.68
2.000	9.79	1.37	1.215	O I					0.72
2.083	10.08	1.44	1.274	O I					0.75
2.167	9.95	1.50	1.332	O I					0.79
2.250	10.44	1.57	1.392	O I					0.82
2.333	10.57	1.64	1.453	O I					0.86
2.417	10.63	1.71	1.515	O I					0.89
2.500	10.66	1.78	1.576	O I					0.93
2.583	10.67	1.85	1.637	O I					0.97
2.667	10.69	1.91	1.698	O I					1.00
2.750	10.98	1.92	1.759	O I					1.03
2.833	11.56	1.94	1.823	O I					1.06
2.917	11.72	1.95	1.890	O I					1.09
3.000	11.79	1.96	1.958	O I					1.13
3.083	11.83	1.98	2.025	O I					1.16
3.167	12.15	1.99	2.094	O I					1.19
3.250	12.74	2.01	2.166	O I					1.22
3.333	12.90	2.02	2.241	O I					1.26
3.417	13.27	2.04	2.317	O I					1.30
3.500	14.18	2.05	2.397	O I					1.33
3.583	15.23	2.07	2.484	O I					1.37
3.667	16.07	2.09	2.578	O I					1.42
3.750	16.63	2.11	2.676	O I					1.47
3.833	17.35	2.13	2.778	O I					1.51
3.917	17.88	2.15	2.885	O I					1.56
4.000	18.58	2.18	2.995	O I					1.62
4.083	19.09	2.20	3.110	O I					1.67
4.167	20.06	2.22	3.230	O I					1.73
4.250	21.15	2.25	3.356	O I					1.79
4.333	22.27	2.28	3.490	O I					1.85
4.417	23.44	2.30	3.632	O I					1.92
4.500	24.31	2.33	3.780	O I					1.99
4.583	24.92	2.36	3.934	O I					2.05

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	25.95	2.38	4.092	IO		I				2.11
4.750	27.06	2.40	4.259	IO		I				2.17
4.833	27.92	2.42	4.431	IO		I				2.23
4.917	28.50	2.45	4.609	IO		I				2.29
5.000	29.51	2.47	4.792	IO		I				2.36
5.083	31.79	2.50	4.986	IO			I			2.43
5.167	37.30	2.53	5.206	IO			I			2.51
5.250	44.31	2.57	5.470	IO				I		2.61
5.333	50.25	2.61	5.777	IO				I		2.72
5.417	57.00	2.66	6.129	IO					I	2.85
5.500	67.49	2.71	6.539	IO					I	3.00
5.583	62.84	2.75	6.969	IO					I	3.14
5.667	33.02	2.78	7.280	IO			I			3.23
5.750	19.54	2.80	7.442	IO		I				3.28
5.833	12.96	2.81	7.534	IO		I				3.31
5.917	8.96	2.82	7.590	IO	I					3.33
6.000	5.74	2.82	7.622	IO	I					3.34
6.083	2.83	2.82	7.632	IO						3.34
6.167	1.06	2.82	7.626	IO						3.34
6.250	0.50	2.82	7.612	IO						3.34
6.333	0.25	2.82	7.595	IO						3.33
6.417	0.11	2.81	7.577	IO						3.33
6.500	0.04	2.81	7.558	IO						3.32
6.583	0.00	2.81	7.539	IO						3.31
6.667	0.00	2.81	7.519	IO						3.31
6.750	0.00	2.81	7.500	IO						3.30
6.833	0.00	2.80	7.481	IO						3.30
6.917	0.00	2.80	7.461	IO						3.29
7.000	0.00	2.80	7.442	IO						3.28
7.083	0.00	2.80	7.423	IO						3.28
7.167	0.00	2.80	7.403	IO						3.27
7.250	0.00	2.79	7.384	IO						3.27
7.333	0.00	2.79	7.365	IO						3.26
7.417	0.00	2.79	7.346	IO						3.25
7.500	0.00	2.79	7.326	IO						3.25
7.583	0.00	2.79	7.307	IO						3.24
7.667	0.00	2.79	7.288	IO						3.24
7.750	0.00	2.78	7.269	IO						3.23
7.833	0.00	2.78	7.250	IO						3.22
7.917	0.00	2.78	7.231	IO						3.22
8.000	0.00	2.78	7.211	IO						3.21
8.083	0.00	2.78	7.192	IO						3.21
8.167	0.00	2.77	7.173	IO						3.20
8.250	0.00	2.77	7.154	IO						3.19
8.333	0.00	2.77	7.135	IO						3.19
8.417	0.00	2.77	7.116	IO						3.18
8.500	0.00	2.77	7.097	IO						3.18
8.583	0.00	2.76	7.078	IO						3.17
8.667	0.00	2.76	7.059	IO						3.16
8.750	0.00	2.76	7.040	IO						3.16
8.833	0.00	2.76	7.021	IO						3.15
8.917	0.00	2.76	7.002	IO						3.15
9.000	0.00	2.75	6.983	IO						3.14
9.083	0.00	2.75	6.964	IO						3.13
9.167	0.00	2.75	6.945	IO						3.13
9.250	0.00	2.75	6.926	IO						3.12
9.333	0.00	2.75	6.907	IO						3.12
9.417	0.00	2.75	6.888	IO						3.11
9.500	0.00	2.74	6.869	IO						3.10
9.583	0.00	2.74	6.850	IO						3.10
9.667	0.00	2.74	6.831	IO						3.09
9.750	0.00	2.74	6.813	IO						3.09
9.833	0.00	2.74	6.794	IO						3.08

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.73	6.775	IO					3.08
10.000	0.00	2.73	6.756	IO					3.07
10.083	0.00	2.73	6.737	IO					3.06
10.167	0.00	2.73	6.719	IO					3.06
10.250	0.00	2.73	6.700	IO					3.05
10.333	0.00	2.72	6.681	IO					3.05
10.417	0.00	2.72	6.662	IO					3.04
10.500	0.00	2.72	6.643	IO					3.03
10.583	0.00	2.72	6.625	IO					3.03
10.667	0.00	2.72	6.606	IO					3.02
10.750	0.00	2.72	6.587	IO					3.02
10.833	0.00	2.71	6.569	IO					3.01
10.917	0.00	2.71	6.550	IO					3.00
11.000	0.00	2.71	6.531	IO					3.00
11.083	0.00	2.71	6.513	IO					2.99
11.167	0.00	2.70	6.494	IO					2.99
11.250	0.00	2.70	6.475	IO					2.98
11.333	0.00	2.70	6.457	IO					2.97
11.417	0.00	2.70	6.438	IO					2.96
11.500	0.00	2.69	6.420	IO					2.96
11.583	0.00	2.69	6.401	IO					2.95
11.667	0.00	2.69	6.383	IO					2.94
11.750	0.00	2.69	6.364	IO					2.94
11.833	0.00	2.68	6.346	IO					2.93
11.917	0.00	2.68	6.327	IO					2.92
12.000	0.00	2.68	6.309	IO					2.92
12.083	0.00	2.68	6.290	IO					2.91
12.167	0.00	2.67	6.272	IO					2.90
12.250	0.00	2.67	6.253	IO					2.90
12.333	0.00	2.67	6.235	IO					2.89
12.417	0.00	2.67	6.217	IO					2.88
12.500	0.00	2.66	6.198	IO					2.88
12.583	0.00	2.66	6.180	IO					2.87
12.667	0.00	2.66	6.161	IO					2.86
12.750	0.00	2.66	6.143	IO					2.86
12.833	0.00	2.65	6.125	IO					2.85
12.917	0.00	2.65	6.107	IO					2.84
13.000	0.00	2.65	6.088	IO					2.84
13.083	0.00	2.65	6.070	IO					2.83
13.167	0.00	2.64	6.052	IO					2.82
13.250	0.00	2.64	6.034	IO					2.82
13.333	0.00	2.64	6.016	IO					2.81
13.417	0.00	2.64	5.997	IO					2.80
13.500	0.00	2.63	5.979	IO					2.80
13.583	0.00	2.63	5.961	IO					2.79
13.667	0.00	2.63	5.943	IO					2.78
13.750	0.00	2.63	5.925	IO					2.78
13.833	0.00	2.62	5.907	IO					2.77
13.917	0.00	2.62	5.889	IO					2.76
14.000	0.00	2.62	5.871	IO					2.76
14.083	0.00	2.62	5.853	IO					2.75
14.167	0.00	2.62	5.835	IO					2.74
14.250	0.00	2.61	5.817	IO					2.74
14.333	0.00	2.61	5.799	IO					2.73
14.417	0.00	2.61	5.781	IO					2.72
14.500	0.00	2.61	5.763	IO					2.72
14.583	0.00	2.60	5.745	IO					2.71
14.667	0.00	2.60	5.727	IO					2.70
14.750	0.00	2.60	5.709	IO					2.70
14.833	0.00	2.60	5.691	IO					2.69
14.917	0.00	2.59	5.673	IO					2.68
15.000	0.00	2.59	5.655	IO					2.68
15.083	0.00	2.59	5.637	IO					2.67

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.167	0.00	2.59	5.620	IO					2.66
15.250	0.00	2.58	5.602	IO					2.66
15.333	0.00	2.58	5.584	IO					2.65
15.417	0.00	2.58	5.566	IO					2.65
15.500	0.00	2.58	5.549	IO					2.64
15.583	0.00	2.57	5.531	IO					2.63
15.667	0.00	2.57	5.513	IO					2.63
15.750	0.00	2.57	5.495	IO					2.62
15.833	0.00	2.57	5.478	IO					2.61
15.917	0.00	2.56	5.460	IO					2.61
16.000	0.00	2.56	5.442	IO					2.60
16.083	0.00	2.56	5.425	IO					2.59
16.167	0.00	2.56	5.407	IO					2.59
16.250	0.00	2.55	5.390	IO					2.58
16.333	0.00	2.55	5.372	IO					2.57
16.417	0.00	2.55	5.354	IO					2.57
16.500	0.00	2.55	5.337	IO					2.56
16.583	0.00	2.55	5.319	IO					2.55
16.667	0.00	2.54	5.302	IO					2.55
16.750	0.00	2.54	5.284	IO					2.54
16.833	0.00	2.54	5.267	IO					2.54
16.917	0.00	2.54	5.249	IO					2.53
17.000	0.00	2.53	5.232	IO					2.52
17.083	0.00	2.53	5.214	IO					2.52
17.167	0.00	2.53	5.197	IO					2.51
17.250	0.00	2.53	5.180	IO					2.50
17.333	0.00	2.52	5.162	IO					2.50
17.417	0.00	2.52	5.145	IO					2.49
17.500	0.00	2.52	5.127	IO					2.48
17.583	0.00	2.52	5.110	IO					2.48
17.667	0.00	2.51	5.093	IO					2.47
17.750	0.00	2.51	5.075	IO					2.47
17.833	0.00	2.51	5.058	IO					2.46
17.917	0.00	2.51	5.041	IO					2.45
18.000	0.00	2.51	5.024	IO					2.45
18.083	0.00	2.50	5.006	IO					2.44
18.167	0.00	2.50	4.989	IO					2.43
18.250	0.00	2.50	4.972	IO					2.43
18.333	0.00	2.50	4.955	IO					2.42
18.417	0.00	2.49	4.938	IO					2.41
18.500	0.00	2.49	4.920	IO					2.41
18.583	0.00	2.49	4.903	IO					2.40
18.667	0.00	2.49	4.886	IO					2.40
18.750	0.00	2.48	4.869	IO					2.39
18.833	0.00	2.48	4.852	IO					2.38
18.917	0.00	2.48	4.835	IO					2.38
19.000	0.00	2.48	4.818	IO					2.37
19.083	0.00	2.47	4.801	IO					2.36
19.167	0.00	2.47	4.784	IO					2.36
19.250	0.00	2.47	4.767	IO					2.35
19.333	0.00	2.47	4.750	IO					2.35
19.417	0.00	2.47	4.733	IO					2.34
19.500	0.00	2.46	4.716	IO					2.33
19.583	0.00	2.46	4.699	IO					2.33
19.667	0.00	2.46	4.682	IO					2.32
19.750	0.00	2.46	4.665	IO					2.31
19.833	0.00	2.45	4.648	IO					2.31
19.917	0.00	2.45	4.631	IO					2.30
20.000	0.00	2.45	4.614	IO					2.30
20.083	0.00	2.45	4.597	IO					2.29
20.167	0.00	2.45	4.580	IO					2.28
20.250	0.00	2.44	4.564	IO					2.28
20.333	0.00	2.44	4.547	IO					2.27

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.44	4.530	IO					2.27
20.500	0.00	2.44	4.513	IO					2.26
20.583	0.00	2.43	4.496	IO					2.25
20.667	0.00	2.43	4.480	IO					2.25
20.750	0.00	2.43	4.463	IO					2.24
20.833	0.00	2.43	4.446	IO					2.23
20.917	0.00	2.42	4.430	IO					2.23
21.000	0.00	2.42	4.413	IO					2.22
21.083	0.00	2.42	4.396	IO					2.22
21.167	0.00	2.42	4.379	IO					2.21
21.250	0.00	2.42	4.363	IO					2.20
21.333	0.00	2.41	4.346	IO					2.20
21.417	0.00	2.41	4.330	IO					2.19
21.500	0.00	2.41	4.313	IO					2.19
21.583	0.00	2.41	4.296	IO					2.18
21.667	0.00	2.40	4.280	IO					2.17
21.750	0.00	2.40	4.263	IO					2.17
21.833	0.00	2.40	4.247	IO					2.16
21.917	0.00	2.40	4.230	IO					2.16
22.000	0.00	2.40	4.214	IO					2.15
22.083	0.00	2.39	4.197	IO					2.14
22.167	0.00	2.39	4.181	IO					2.14
22.250	0.00	2.39	4.164	IO					2.13
22.333	0.00	2.39	4.148	IO					2.13
22.417	0.00	2.38	4.131	IO					2.12
22.500	0.00	2.38	4.115	IO					2.11
22.583	0.00	2.38	4.099	IO					2.11
22.667	0.00	2.38	4.082	IO					2.10
22.750	0.00	2.38	4.066	IO					2.10
22.833	0.00	2.37	4.050	IO					2.09
22.917	0.00	2.37	4.033	IO					2.08
23.000	0.00	2.37	4.017	IO					2.08
23.083	0.00	2.37	4.001	IO					2.07
23.167	0.00	2.36	3.984	IO					2.07
23.250	0.00	2.36	3.968	IO					2.06
23.333	0.00	2.36	3.952	IO					2.05
23.417	0.00	2.36	3.936	IO					2.05
23.500	0.00	2.36	3.919	IO					2.04
23.583	0.00	2.35	3.903	IO					2.04
23.667	0.00	2.35	3.887	IO					2.03
23.750	0.00	2.35	3.871	IO					2.02
23.833	0.00	2.35	3.855	IO					2.02
23.917	0.00	2.34	3.838	IO					2.01
24.000	0.00	2.34	3.822	IO					2.01
24.083	0.00	2.34	3.806	IO					2.00
24.167	0.00	2.34	3.790	IO					1.99
24.250	0.00	2.33	3.774	IO					1.98
24.333	0.00	2.33	3.758	IO					1.98
24.417	0.00	2.33	3.742	IO					1.97
24.500	0.00	2.32	3.726	IO					1.96
24.583	0.00	2.32	3.710	IO					1.95
24.667	0.00	2.32	3.694	IO					1.95
24.750	0.00	2.31	3.678	IO					1.94
24.833	0.00	2.31	3.662	IO					1.93
24.917	0.00	2.31	3.646	IO					1.92
25.000	0.00	2.30	3.630	IO					1.92
25.083	0.00	2.30	3.614	IO					1.91
25.167	0.00	2.30	3.599	IO					1.90
25.250	0.00	2.29	3.583	IO					1.89
25.333	0.00	2.29	3.567	IO					1.89
25.417	0.00	2.29	3.551	IO					1.88
25.500	0.00	2.28	3.535	IO					1.87
25.583	0.00	2.28	3.520	IO					1.86



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.28	3.504	IO					1.86
25.750	0.00	2.28	3.488	IO					1.85
25.833	0.00	2.27	3.473	IO					1.84
25.917	0.00	2.27	3.457	IO					1.83
26.000	0.00	2.27	3.441	IO					1.83
26.083	0.00	2.26	3.426	IO					1.82
26.167	0.00	2.26	3.410	IO					1.81
26.250	0.00	2.26	3.395	IO					1.81
26.333	0.00	2.25	3.379	IO					1.80
26.417	0.00	2.25	3.364	IO					1.79
26.500	0.00	2.25	3.348	IO					1.78
26.583	0.00	2.24	3.333	IO					1.78
26.667	0.00	2.24	3.317	IO					1.77
26.750	0.00	2.24	3.302	IO					1.76
26.833	0.00	2.23	3.286	IO					1.75
26.917	0.00	2.23	3.271	IO					1.75
27.000	0.00	2.23	3.256	IO					1.74
27.083	0.00	2.22	3.240	IO					1.73
27.167	0.00	2.22	3.225	IO					1.73
27.250	0.00	2.22	3.210	IO					1.72
27.333	0.00	2.22	3.194	IO					1.71
27.417	0.00	2.21	3.179	IO					1.70
27.500	0.00	2.21	3.164	IO					1.70
27.583	0.00	2.21	3.149	IO					1.69
27.667	0.00	2.20	3.134	IO					1.68
27.750	0.00	2.20	3.118	IO					1.67
27.833	0.00	2.20	3.103	IO					1.67
27.917	0.00	2.19	3.088	IO					1.66
28.000	0.00	2.19	3.073	IO					1.65
28.083	0.00	2.19	3.058	IO					1.65
28.167	0.00	2.18	3.043	IO					1.64
28.250	0.00	2.18	3.028	IO					1.63
28.333	0.00	2.18	3.013	IO					1.62
28.417	0.00	2.18	2.998	IO					1.62
28.500	0.00	2.17	2.983	IO					1.61
28.583	0.00	2.17	2.968	IO					1.60
28.667	0.00	2.17	2.953	IO					1.60
28.750	0.00	2.16	2.938	IO					1.59
28.833	0.00	2.16	2.923	IO					1.58
28.917	0.00	2.16	2.908	IO					1.58
29.000	0.00	2.15	2.894	IO					1.57
29.083	0.00	2.15	2.879	IO					1.56
29.167	0.00	2.15	2.864	IO					1.55
29.250	0.00	2.15	2.849	IO					1.55
29.333	0.00	2.14	2.834	IO					1.54
29.417	0.00	2.14	2.820	IO					1.53
29.500	0.00	2.14	2.805	IO					1.53
29.583	0.00	2.13	2.790	IO					1.52
29.667	0.00	2.13	2.776	IO					1.51
29.750	0.00	2.13	2.761	IO					1.51
29.833	0.00	2.12	2.746	IO					1.50
29.917	0.00	2.12	2.732	IO					1.49
30.000	0.00	2.12	2.717	IO					1.48
30.083	0.00	2.12	2.702	IO					1.48
30.167	0.00	2.11	2.688	IO					1.47
30.250	0.00	2.11	2.673	IO					1.46
30.333	0.00	2.11	2.659	O					1.46
30.417	0.00	2.10	2.644	O					1.45
30.500	0.00	2.10	2.630	O					1.44
30.583	0.00	2.10	2.615	O					1.44
30.667	0.00	2.09	2.601	O					1.43
30.750	0.00	2.09	2.587	O					1.42
30.833	0.00	2.09	2.572	O					1.42

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	2.09	2.558	0					1.41
31.000	0.00	2.08	2.543	0					1.40
31.083	0.00	2.08	2.529	0					1.40
31.167	0.00	2.08	2.515	0					1.39
31.250	0.00	2.07	2.500	0					1.38
31.333	0.00	2.07	2.486	0					1.38
31.417	0.00	2.07	2.472	0					1.37
31.500	0.00	2.07	2.458	0					1.36
31.583	0.00	2.06	2.443	0					1.36
31.667	0.00	2.06	2.429	0					1.35
31.750	0.00	2.06	2.415	0					1.34
31.833	0.00	2.05	2.401	0					1.34
31.917	0.00	2.05	2.387	0					1.33
32.000	0.00	2.05	2.373	0					1.32
32.083	0.00	2.05	2.359	0					1.31
32.167	0.00	2.04	2.344	0					1.31
32.250	0.00	2.04	2.330	0					1.30
32.333	0.00	2.04	2.316	0					1.30
32.417	0.00	2.03	2.302	0					1.29
32.500	0.00	2.03	2.288	0					1.28
32.583	0.00	2.03	2.274	0					1.28
32.667	0.00	2.03	2.260	0					1.27
32.750	0.00	2.02	2.246	0					1.26
32.833	0.00	2.02	2.233	0					1.26
32.917	0.00	2.02	2.219	0					1.25
33.000	0.00	2.01	2.205	0					1.24
33.083	0.00	2.01	2.191	0					1.24
33.167	0.00	2.01	2.177	0					1.23
33.250	0.00	2.01	2.163	0					1.22
33.333	0.00	2.00	2.149	0					1.22
33.417	0.00	2.00	2.136	0					1.21
33.500	0.00	2.00	2.122	0					1.20
33.583	0.00	1.99	2.108	0					1.20
33.667	0.00	1.99	2.094	0					1.19
33.750	0.00	1.99	2.081	0					1.18
33.833	0.00	1.99	2.067	0					1.18
33.917	0.00	1.98	2.053	0					1.17
34.000	0.00	1.98	2.040	0					1.16
34.083	0.00	1.98	2.026	0					1.16
34.167	0.00	1.98	2.012	0					1.15
34.250	0.00	1.97	1.999	0					1.14
34.333	0.00	1.97	1.985	0					1.14
34.417	0.00	1.97	1.972	0					1.13
34.500	0.00	1.96	1.958	0					1.13
34.583	0.00	1.96	1.945	0					1.12
34.667	0.00	1.96	1.931	0					1.11
34.750	0.00	1.96	1.918	0					1.11
34.833	0.00	1.95	1.904	0					1.10
34.917	0.00	1.95	1.891	0					1.09
35.000	0.00	1.95	1.877	0					1.09
35.083	0.00	1.94	1.864	0					1.08
35.167	0.00	1.94	1.851	0					1.07
35.250	0.00	1.94	1.837	0					1.07
35.333	0.00	1.94	1.824	0					1.06
35.417	0.00	1.93	1.811	0					1.06
35.500	0.00	1.93	1.797	0					1.05
35.583	0.00	1.93	1.784	0					1.04
35.667	0.00	1.93	1.771	0					1.04
35.750	0.00	1.92	1.757	0					1.03
35.833	0.00	1.92	1.744	0					1.02
35.917	0.00	1.92	1.731	0					1.02
36.000	0.00	1.92	1.718	0					1.01
36.083	0.00	1.91	1.705	0					1.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	1.91	1.691	0					1.00
36.250	0.00	1.89	1.678	0					0.99
36.333	0.00	1.88	1.665	0					0.98
36.417	0.00	1.86	1.652	0					0.98
36.500	0.00	1.85	1.640	0					0.97
36.583	0.00	1.84	1.627	0					0.96
36.667	0.00	1.82	1.614	0					0.95
36.750	0.00	1.81	1.602	0					0.95
36.833	0.00	1.79	1.590	0					0.94
36.917	0.00	1.78	1.577	0					0.93
37.000	0.00	1.77	1.565	0					0.92
37.083	0.00	1.75	1.553	0					0.92
37.167	0.00	1.74	1.541	0					0.91
37.250	0.00	1.72	1.529	0					0.90
37.333	0.00	1.71	1.517	0					0.90
37.417	0.00	1.70	1.505	0					0.89
37.500	0.00	1.69	1.494	0					0.88
37.583	0.00	1.67	1.482	0					0.88
37.667	0.00	1.66	1.471	0					0.87
37.750	0.00	1.65	1.459	0					0.86
37.833	0.00	1.63	1.448	0					0.86
37.917	0.00	1.62	1.437	0					0.85
38.000	0.00	1.61	1.426	0					0.84
38.083	0.00	1.60	1.415	0					0.84
38.167	0.00	1.58	1.404	0					0.83
38.250	0.00	1.57	1.393	0					0.82
38.333	0.00	1.56	1.382	0					0.82
38.417	0.00	1.55	1.371	0					0.81
38.500	0.00	1.54	1.361	0					0.80
38.583	0.00	1.52	1.350	0					0.80
38.667	0.00	1.51	1.340	0					0.79
38.750	0.00	1.50	1.329	0					0.79
38.833	0.00	1.49	1.319	0					0.78
38.917	0.00	1.48	1.309	0					0.77
39.000	0.00	1.47	1.299	0					0.77
39.083	0.00	1.45	1.289	0					0.76
39.167	0.00	1.44	1.279	0					0.76
39.250	0.00	1.43	1.269	0					0.75
39.333	0.00	1.42	1.259	0					0.74
39.417	0.00	1.41	1.249	0					0.74
39.500	0.00	1.40	1.240	0					0.73
39.583	0.00	1.39	1.230	0					0.73
39.667	0.00	1.38	1.221	0					0.72
39.750	0.00	1.37	1.211	0					0.72
39.833	0.00	1.36	1.202	0					0.71
39.917	0.00	1.35	1.192	0					0.70
40.000	0.00	1.33	1.183	0					0.70
40.083	0.00	1.32	1.174	0					0.69
40.167	0.00	1.31	1.165	0					0.69
40.250	0.00	1.30	1.156	0					0.68
40.333	0.00	1.29	1.147	0					0.68
40.417	0.00	1.28	1.138	0					0.67
40.500	0.00	1.27	1.129	0					0.67
40.583	0.00	1.26	1.121	0					0.66
40.667	0.00	1.25	1.112	0					0.66
40.750	0.00	1.24	1.103	0					0.65
40.833	0.00	1.24	1.095	0					0.65
40.917	0.00	1.23	1.086	0					0.64
41.000	0.00	1.22	1.078	0					0.64
41.083	0.00	1.21	1.069	0					0.63
41.167	0.00	1.20	1.061	0					0.63
41.250	0.00	1.19	1.053	0					0.62
41.333	0.00	1.18	1.045	0					0.62

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	1.17	1.037	0					0.61
41.500	0.00	1.16	1.029	0					0.61
41.583	0.00	1.15	1.021	0					0.60
41.667	0.00	1.14	1.013	0					0.60
41.750	0.00	1.13	1.005	0					0.59
41.833	0.00	1.13	0.997	0					0.59
41.917	0.00	1.12	0.990	0					0.58
42.000	0.00	1.11	0.982	0					0.58
42.083	0.00	1.10	0.974	0					0.58
42.167	0.00	1.09	0.967	0					0.57
42.250	0.00	1.08	0.959	0					0.57
42.333	0.00	1.07	0.952	0					0.56
42.417	0.00	1.07	0.944	0					0.56
42.500	0.00	1.06	0.937	0					0.55
42.583	0.00	1.05	0.930	0					0.55
42.667	0.00	1.04	0.923	0					0.55
42.750	0.00	1.03	0.916	0					0.54
42.833	0.00	1.02	0.908	0					0.54
42.917	0.00	1.02	0.901	0					0.53
43.000	0.00	1.01	0.894	0					0.53
43.083	0.00	1.00	0.888	0					0.52
43.167	0.00	0.99	0.881	0					0.52
43.250	0.00	0.99	0.874	0					0.52
43.333	0.00	0.98	0.867	0					0.51
43.417	0.00	0.97	0.860	0					0.51
43.500	0.00	0.96	0.854	0					0.50
43.583	0.00	0.96	0.847	0					0.50
43.667	0.00	0.95	0.841	0					0.50
43.750	0.00	0.94	0.834	0					0.49
43.833	0.00	0.93	0.828	0					0.49
43.917	0.00	0.93	0.821	0					0.49
44.000	0.00	0.92	0.815	0					0.48
44.083	0.00	0.91	0.809	0					0.48
44.167	0.00	0.91	0.802	0					0.47
44.250	0.00	0.90	0.796	0					0.47
44.333	0.00	0.89	0.790	0					0.47
44.417	0.00	0.88	0.784	0					0.46
44.500	0.00	0.88	0.778	0					0.46
44.583	0.00	0.87	0.772	0					0.46
44.667	0.00	0.86	0.766	0					0.45
44.750	0.00	0.86	0.760	0					0.45
44.833	0.00	0.85	0.754	0					0.45
44.917	0.00	0.84	0.748	0					0.44
45.000	0.00	0.84	0.742	0					0.44
45.083	0.00	0.83	0.737	0					0.44
45.167	0.00	0.82	0.731	0					0.43
45.250	0.00	0.82	0.725	0					0.43
45.333	0.00	0.81	0.720	0					0.43
45.417	0.00	0.81	0.714	0					0.42
45.500	0.00	0.80	0.708	0					0.42
45.583	0.00	0.79	0.703	0					0.42
45.667	0.00	0.79	0.698	0					0.41
45.750	0.00	0.78	0.692	0					0.41
45.833	0.00	0.77	0.687	0					0.41
45.917	0.00	0.77	0.681	0					0.40
46.000	0.00	0.76	0.676	0					0.40
46.083	0.00	0.76	0.671	0					0.40
46.167	0.00	0.75	0.666	0					0.39
46.250	0.00	0.75	0.661	0					0.39
46.333	0.00	0.74	0.656	0					0.39
46.417	0.00	0.73	0.650	0					0.38
46.500	0.00	0.73	0.645	0					0.38
46.583	0.00	0.72	0.640	0					0.38

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.72	0.635	0					0.38
46.750	0.00	0.71	0.631	0					0.37
46.833	0.00	0.71	0.626	0					0.37
46.917	0.00	0.70	0.621	0					0.37
47.000	0.00	0.69	0.616	0					0.36
47.083	0.00	0.69	0.611	0					0.36
47.167	0.00	0.68	0.607	0					0.36
47.250	0.00	0.68	0.602	0					0.36
47.333	0.00	0.67	0.597	0					0.35
47.417	0.00	0.67	0.593	0					0.35
47.500	0.00	0.66	0.588	0					0.35
47.583	0.00	0.66	0.583	0					0.34
47.667	0.00	0.65	0.579	0					0.34
47.750	0.00	0.65	0.574	0					0.34
47.833	0.00	0.64	0.570	0					0.34
47.917	0.00	0.64	0.566	0					0.33
48.000	0.00	0.63	0.561	0					0.33
48.083	0.00	0.63	0.557	0					0.33
48.167	0.00	0.62	0.553	0					0.33
48.250	0.00	0.62	0.548	0					0.32
48.333	0.00	0.61	0.544	0					0.32
48.417	0.00	0.61	0.540	0					0.32
48.500	0.00	0.60	0.536	0					0.32
48.583	0.00	0.60	0.531	0					0.31
48.667	0.00	0.59	0.527	0					0.31
48.750	0.00	0.59	0.523	0					0.31
48.833	0.00	0.59	0.519	0					0.31
48.917	0.00	0.58	0.515	0					0.30
49.000	0.00	0.58	0.511	0					0.30
49.083	0.00	0.57	0.507	0					0.30
49.167	0.00	0.57	0.503	0					0.30
49.250	0.00	0.56	0.499	0					0.30
49.333	0.00	0.56	0.496	0					0.29
49.417	0.00	0.55	0.492	0					0.29
49.500	0.00	0.55	0.488	0					0.29
49.583	0.00	0.55	0.484	0					0.29
49.667	0.00	0.54	0.480	0					0.28
49.750	0.00	0.54	0.477	0					0.28
49.833	0.00	0.53	0.473	0					0.28
49.917	0.00	0.53	0.469	0					0.28
50.000	0.00	0.53	0.466	0					0.28
50.083	0.00	0.52	0.462	0					0.27
50.167	0.00	0.52	0.459	0					0.27
50.250	0.00	0.51	0.455	0					0.27
50.333	0.00	0.51	0.451	0					0.27
50.417	0.00	0.51	0.448	0					0.26
50.500	0.00	0.50	0.444	0					0.26
50.583	0.00	0.50	0.441	0					0.26
50.667	0.00	0.49	0.438	0					0.26
50.750	0.00	0.49	0.434	0					0.26
50.833	0.00	0.49	0.431	0					0.25
50.917	0.00	0.48	0.428	0					0.25
51.000	0.00	0.48	0.424	0					0.25
51.083	0.00	0.47	0.421	0					0.25
51.167	0.00	0.47	0.418	0					0.25
51.250	0.00	0.47	0.414	0					0.24
51.333	0.00	0.46	0.411	0					0.24
51.417	0.00	0.46	0.408	0					0.24
51.500	0.00	0.46	0.405	0					0.24
51.583	0.00	0.45	0.402	0					0.24
51.667	0.00	0.45	0.399	0					0.24
51.750	0.00	0.45	0.396	0					0.23
51.833	0.00	0.44	0.393	0					0.23

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.44	0.389	0					0.23
52.000	0.00	0.44	0.386	0					0.23
52.083	0.00	0.43	0.383	0					0.23
52.167	0.00	0.43	0.381	0					0.22
52.250	0.00	0.43	0.378	0					0.22
52.333	0.00	0.42	0.375	0					0.22
52.417	0.00	0.42	0.372	0					0.22
52.500	0.00	0.42	0.369	0					0.22
52.583	0.00	0.41	0.366	0					0.22
52.667	0.00	0.41	0.363	0					0.21
52.750	0.00	0.41	0.360	0					0.21
52.833	0.00	0.40	0.358	0					0.21
52.917	0.00	0.40	0.355	0					0.21
53.000	0.00	0.40	0.352	0					0.21
53.083	0.00	0.39	0.349	0					0.21
53.167	0.00	0.39	0.347	0					0.20
53.250	0.00	0.39	0.344	0					0.20
53.333	0.00	0.39	0.341	0					0.20
53.417	0.00	0.38	0.339	0					0.20
53.500	0.00	0.38	0.336	0					0.20
53.583	0.00	0.38	0.333	0					0.20
53.667	0.00	0.37	0.331	0					0.20
53.750	0.00	0.37	0.328	0					0.19
53.833	0.00	0.37	0.326	0					0.19
53.917	0.00	0.36	0.323	0					0.19
54.000	0.00	0.36	0.321	0					0.19
54.083	0.00	0.36	0.318	0					0.19
54.167	0.00	0.36	0.316	0					0.19
54.250	0.00	0.35	0.313	0					0.19
54.333	0.00	0.35	0.311	0					0.18
54.417	0.00	0.35	0.309	0					0.18
54.500	0.00	0.35	0.306	0					0.18
54.583	0.00	0.34	0.304	0					0.18
54.667	0.00	0.34	0.301	0					0.18
54.750	0.00	0.34	0.299	0					0.18
54.833	0.00	0.33	0.297	0					0.18
54.917	0.00	0.33	0.294	0					0.17
55.000	0.00	0.33	0.292	0					0.17
55.083	0.00	0.33	0.290	0					0.17
55.167	0.00	0.32	0.288	0					0.17
55.250	0.00	0.32	0.285	0					0.17
55.333	0.00	0.32	0.283	0					0.17
55.417	0.00	0.32	0.281	0					0.17
55.500	0.00	0.31	0.279	0					0.16
55.583	0.00	0.31	0.277	0					0.16
55.667	0.00	0.31	0.275	0					0.16
55.750	0.00	0.31	0.272	0					0.16
55.833	0.00	0.30	0.270	0					0.16
55.917	0.00	0.30	0.268	0					0.16
56.000	0.00	0.30	0.266	0					0.16
56.083	0.00	0.30	0.264	0					0.16
56.167	0.00	0.30	0.262	0					0.15
56.250	0.00	0.29	0.260	0					0.15
56.333	0.00	0.29	0.258	0					0.15
56.417	0.00	0.29	0.256	0					0.15
56.500	0.00	0.29	0.254	0					0.15
56.583	0.00	0.28	0.252	0					0.15
56.667	0.00	0.28	0.250	0					0.15
56.750	0.00	0.28	0.248	0					0.15
56.833	0.00	0.28	0.246	0					0.15
56.917	0.00	0.28	0.244	0					0.14
57.000	0.00	0.27	0.242	0					0.14
57.083	0.00	0.27	0.241	0					0.14

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

57.167	0.00	0.27	0.239	o					0.14
57.250	0.00	0.27	0.237	o					0.14
57.333	0.00	0.27	0.235	o					0.14
57.417	0.00	0.26	0.233	o					0.14
57.500	0.00	0.26	0.231	o					0.14
57.583	0.00	0.26	0.230	o					0.14
57.667	0.00	0.26	0.228	o					0.13
57.750	0.00	0.26	0.226	o					0.13
57.833	0.00	0.25	0.224	o					0.13
57.917	0.00	0.25	0.223	o					0.13
58.000	0.00	0.25	0.221	o					0.13
58.083	0.00	0.25	0.219	o					0.13
58.167	0.00	0.25	0.217	o					0.13
58.250	0.00	0.24	0.216	o					0.13
58.333	0.00	0.24	0.214	o					0.13
58.417	0.00	0.24	0.212	o					0.13
58.500	0.00	0.24	0.211	o					0.12
58.583	0.00	0.24	0.209	o					0.12
58.667	0.00	0.23	0.208	o					0.12
58.750	0.00	0.23	0.206	o					0.12
58.833	0.00	0.23	0.204	o					0.12
58.917	0.00	0.23	0.203	o					0.12
59.000	0.00	0.23	0.201	o					0.12
59.083	0.00	0.23	0.200	o					0.12
59.167	0.00	0.22	0.198	o					0.12
59.250	0.00	0.22	0.197	o					0.12
59.333	0.00	0.22	0.195	o					0.12
59.417	0.00	0.22	0.194	o					0.11
59.500	0.00	0.22	0.192	o					0.11
59.583	0.00	0.21	0.191	o					0.11
59.667	0.00	0.21	0.189	o					0.11
59.750	0.00	0.21	0.188	o					0.11
59.833	0.00	0.21	0.186	o					0.11
59.917	0.00	0.21	0.185	o					0.11
60.000	0.00	0.21	0.183	o					0.11
60.083	0.00	0.21	0.182	o					0.11
60.167	0.00	0.20	0.180	o					0.11
60.250	0.00	0.20	0.179	o					0.11
60.333	0.00	0.20	0.178	o					0.10
60.417	0.00	0.20	0.176	o					0.10
60.500	0.00	0.20	0.175	o					0.10
60.583	0.00	0.20	0.174	o					0.10
60.667	0.00	0.19	0.172	o					0.10
60.750	0.00	0.19	0.171	o					0.10
60.833	0.00	0.19	0.170	o					0.10
60.917	0.00	0.19	0.168	o					0.10
61.000	0.00	0.19	0.167	o					0.10
61.083	0.00	0.19	0.166	o					0.10
61.167	0.00	0.19	0.164	o					0.10
61.250	0.00	0.18	0.163	o					0.10
61.333	0.00	0.18	0.162	o					0.10
61.417	0.00	0.18	0.161	o					0.09
61.500	0.00	0.18	0.159	o					0.09
61.583	0.00	0.18	0.158	o					0.09
61.667	0.00	0.18	0.157	o					0.09
61.750	0.00	0.18	0.156	o					0.09
61.833	0.00	0.17	0.155	o					0.09
61.917	0.00	0.17	0.153	o					0.09
62.000	0.00	0.17	0.152	o					0.09
62.083	0.00	0.17	0.151	o					0.09
62.167	0.00	0.17	0.150	o					0.09
62.250	0.00	0.17	0.149	o					0.09
62.333	0.00	0.17	0.147	o					0.09

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### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.17	0.146	o					0.09
62.500	0.00	0.16	0.145	o					0.09
62.583	0.00	0.16	0.144	o					0.09
62.667	0.00	0.16	0.143	o					0.08
62.750	0.00	0.16	0.142	o					0.08
62.833	0.00	0.16	0.141	o					0.08
62.917	0.00	0.16	0.140	o					0.08
63.000	0.00	0.16	0.139	o					0.08
63.083	0.00	0.16	0.138	o					0.08
63.167	0.00	0.15	0.136	o					0.08
63.250	0.00	0.15	0.135	o					0.08
63.333	0.00	0.15	0.134	o					0.08
63.417	0.00	0.15	0.133	o					0.08
63.500	0.00	0.15	0.132	o					0.08
63.583	0.00	0.15	0.131	o					0.08
63.667	0.00	0.15	0.130	o					0.08
63.750	0.00	0.15	0.129	o					0.08
63.833	0.00	0.14	0.128	o					0.08
63.917	0.00	0.14	0.127	o					0.08
64.000	0.00	0.14	0.126	o					0.07
64.083	0.00	0.14	0.125	o					0.07
64.167	0.00	0.14	0.124	o					0.07
64.250	0.00	0.14	0.123	o					0.07
64.333	0.00	0.14	0.122	o					0.07
64.417	0.00	0.14	0.121	o					0.07
64.500	0.00	0.14	0.120	o					0.07
64.583	0.00	0.13	0.120	o					0.07
64.667	0.00	0.13	0.119	o					0.07
64.750	0.00	0.13	0.118	o					0.07
64.833	0.00	0.13	0.117	o					0.07
64.917	0.00	0.13	0.116	o					0.07
65.000	0.00	0.13	0.115	o					0.07
65.083	0.00	0.13	0.114	o					0.07
65.167	0.00	0.13	0.113	o					0.07
65.250	0.00	0.13	0.112	o					0.07
65.333	0.00	0.13	0.111	o					0.07
65.417	0.00	0.12	0.111	o					0.07
65.500	0.00	0.12	0.110	o					0.06
65.583	0.00	0.12	0.109	o					0.06
65.667	0.00	0.12	0.108	o					0.06
65.750	0.00	0.12	0.107	o					0.06
65.833	0.00	0.12	0.106	o					0.06
65.917	0.00	0.12	0.106	o					0.06
66.000	0.00	0.12	0.105	o					0.06
66.083	0.00	0.12	0.104	o					0.06
66.167	0.00	0.12	0.103	o					0.06
66.250	0.00	0.12	0.102	o					0.06
66.333	0.00	0.11	0.102	o					0.06
66.417	0.00	0.11	0.101	o					0.06
66.500	0.00	0.11	0.100	o					0.06
66.583	0.00	0.11	0.099	o					0.06
66.667	0.00	0.11	0.098	o					0.06
66.750	0.00	0.11	0.098	o					0.06
66.833	0.00	0.11	0.097	o					0.06
66.917	0.00	0.11	0.096	o					0.06
67.000	0.00	0.11	0.095	o					0.06
67.083	0.00	0.11	0.095	o					0.06
67.167	0.00	0.11	0.094	o					0.06
67.250	0.00	0.11	0.093	o					0.06
67.333	0.00	0.10	0.093	o					0.05
67.417	0.00	0.10	0.092	o					0.05
67.500	0.00	0.10	0.091	o					0.05
67.583	0.00	0.10	0.090	o					0.05



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.10	0.090	o					0.05
67.750	0.00	0.10	0.089	o					0.05
67.833	0.00	0.10	0.088	o					0.05
67.917	0.00	0.10	0.088	o					0.05
68.000	0.00	0.10	0.087	o					0.05
68.083	0.00	0.10	0.086	o					0.05
68.167	0.00	0.10	0.086	o					0.05
68.250	0.00	0.10	0.085	o					0.05
68.333	0.00	0.10	0.084	o					0.05
68.417	0.00	0.09	0.084	o					0.05
68.500	0.00	0.09	0.083	o					0.05
68.583	0.00	0.09	0.082	o					0.05
68.667	0.00	0.09	0.082	o					0.05
68.750	0.00	0.09	0.081	o					0.05
68.833	0.00	0.09	0.080	o					0.05
68.917	0.00	0.09	0.080	o					0.05
69.000	0.00	0.09	0.079	o					0.05
69.083	0.00	0.09	0.079	o					0.05
69.167	0.00	0.09	0.078	o					0.05
69.250	0.00	0.09	0.077	o					0.05
69.333	0.00	0.09	0.077	o					0.05
69.417	0.00	0.09	0.076	o					0.05
69.500	0.00	0.09	0.076	o					0.04
69.583	0.00	0.08	0.075	o					0.04
69.667	0.00	0.08	0.074	o					0.04
69.750	0.00	0.08	0.074	o					0.04
69.833	0.00	0.08	0.073	o					0.04
69.917	0.00	0.08	0.073	o					0.04
70.000	0.00	0.08	0.072	o					0.04
70.083	0.00	0.08	0.072	o					0.04
70.167	0.00	0.08	0.071	o					0.04
70.250	0.00	0.08	0.070	o					0.04
70.333	0.00	0.08	0.070	o					0.04
70.417	0.00	0.08	0.069	o					0.04
70.500	0.00	0.08	0.069	o					0.04
70.583	0.00	0.08	0.068	o					0.04
70.667	0.00	0.08	0.068	o					0.04
70.750	0.00	0.08	0.067	o					0.04
70.833	0.00	0.08	0.067	o					0.04
70.917	0.00	0.07	0.066	o					0.04
71.000	0.00	0.07	0.066	o					0.04
71.083	0.00	0.07	0.065	o					0.04
71.167	0.00	0.07	0.065	o					0.04
71.250	0.00	0.07	0.064	o					0.04
71.333	0.00	0.07	0.064	o					0.04
71.417	0.00	0.07	0.063	o					0.04
71.500	0.00	0.07	0.063	o					0.04
71.583	0.00	0.07	0.062	o					0.04
71.667	0.00	0.07	0.062	o					0.04
71.750	0.00	0.07	0.061	o					0.04
71.833	0.00	0.07	0.061	o					0.04
71.917	0.00	0.07	0.060	o					0.04
72.000	0.00	0.07	0.060	o					0.04
72.083	0.00	0.07	0.059	o					0.04
72.167	0.00	0.07	0.059	o					0.03
72.250	0.00	0.07	0.058	o					0.03
72.333	0.00	0.07	0.058	o					0.03
72.417	0.00	0.06	0.058	o					0.03
72.500	0.00	0.06	0.057	o					0.03
72.583	0.00	0.06	0.057	o					0.03
72.667	0.00	0.06	0.056	o					0.03
72.750	0.00	0.06	0.056	o					0.03
72.833	0.00	0.06	0.055	o					0.03

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.06	0.055	0					0.03
73.000	0.00	0.06	0.055	0					0.03
73.083	0.00	0.06	0.054	0					0.03
73.167	0.00	0.06	0.054	0					0.03
73.250	0.00	0.06	0.053	0					0.03
73.333	0.00	0.06	0.053	0					0.03
73.417	0.00	0.06	0.052	0					0.03
73.500	0.00	0.06	0.052	0					0.03
73.583	0.00	0.06	0.052	0					0.03
73.667	0.00	0.06	0.051	0					0.03
73.750	0.00	0.06	0.051	0					0.03
73.833	0.00	0.06	0.050	0					0.03
73.917	0.00	0.06	0.050	0					0.03
74.000	0.00	0.06	0.050	0					0.03
74.083	0.00	0.06	0.049	0					0.03
74.167	0.00	0.06	0.049	0					0.03
74.250	0.00	0.05	0.049	0					0.03
74.333	0.00	0.05	0.048	0					0.03
74.417	0.00	0.05	0.048	0					0.03
74.500	0.00	0.05	0.047	0					0.03
74.583	0.00	0.05	0.047	0					0.03
74.667	0.00	0.05	0.047	0					0.03
74.750	0.00	0.05	0.046	0					0.03
74.833	0.00	0.05	0.046	0					0.03
74.917	0.00	0.05	0.046	0					0.03
75.000	0.00	0.05	0.045	0					0.03
75.083	0.00	0.05	0.045	0					0.03
75.167	0.00	0.05	0.045	0					0.03
75.250	0.00	0.05	0.044	0					0.03
75.333	0.00	0.05	0.044	0					0.03
75.417	0.00	0.05	0.044	0					0.03
75.500	0.00	0.05	0.043	0					0.03
75.583	0.00	0.05	0.043	0					0.03
75.667	0.00	0.05	0.043	0					0.03
75.750	0.00	0.05	0.042	0					0.02
75.833	0.00	0.05	0.042	0					0.02
75.917	0.00	0.05	0.042	0					0.02
76.000	0.00	0.05	0.041	0					0.02
76.083	0.00	0.05	0.041	0					0.02
76.167	0.00	0.05	0.041	0					0.02
76.250	0.00	0.05	0.040	0					0.02
76.333	0.00	0.05	0.040	0					0.02
76.417	0.00	0.04	0.040	0					0.02
76.500	0.00	0.04	0.039	0					0.02
76.583	0.00	0.04	0.039	0					0.02
76.667	0.00	0.04	0.039	0					0.02
76.750	0.00	0.04	0.038	0					0.02
76.833	0.00	0.04	0.038	0					0.02
76.917	0.00	0.04	0.038	0					0.02
77.000	0.00	0.04	0.038	0					0.02
77.083	0.00	0.04	0.037	0					0.02
77.167	0.00	0.04	0.037	0					0.02
77.250	0.00	0.04	0.037	0					0.02
77.333	0.00	0.04	0.036	0					0.02
77.417	0.00	0.04	0.036	0					0.02
77.500	0.00	0.04	0.036	0					0.02
77.583	0.00	0.04	0.036	0					0.02
77.667	0.00	0.04	0.035	0					0.02
77.750	0.00	0.04	0.035	0					0.02
77.833	0.00	0.04	0.035	0					0.02
77.917	0.00	0.04	0.034	0					0.02
78.000	0.00	0.04	0.034	0					0.02
78.083	0.00	0.04	0.034	0					0.02

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.04	0.034	o					0.02
78.250	0.00	0.04	0.033	o					0.02
78.333	0.00	0.04	0.033	o					0.02
78.417	0.00	0.04	0.033	o					0.02
78.500	0.00	0.04	0.033	o					0.02
78.583	0.00	0.04	0.032	o					0.02
78.667	0.00	0.04	0.032	o					0.02
78.750	0.00	0.04	0.032	o					0.02
78.833	0.00	0.04	0.032	o					0.02
78.917	0.00	0.04	0.031	o					0.02
79.000	0.00	0.04	0.031	o					0.02
79.083	0.00	0.03	0.031	o					0.02
79.167	0.00	0.03	0.031	o					0.02
79.250	0.00	0.03	0.030	o					0.02
79.333	0.00	0.03	0.030	o					0.02
79.417	0.00	0.03	0.030	o					0.02
79.500	0.00	0.03	0.030	o					0.02
79.583	0.00	0.03	0.030	o					0.02
79.667	0.00	0.03	0.029	o					0.02
79.750	0.00	0.03	0.029	o					0.02
79.833	0.00	0.03	0.029	o					0.02
79.917	0.00	0.03	0.029	o					0.02
80.000	0.00	0.03	0.028	o					0.02
80.083	0.00	0.03	0.028	o					0.02
80.167	0.00	0.03	0.028	o					0.02
80.250	0.00	0.03	0.028	o					0.02
80.333	0.00	0.03	0.028	o					0.02
80.417	0.00	0.03	0.027	o					0.02
80.500	0.00	0.03	0.027	o					0.02
80.583	0.00	0.03	0.027	o					0.02
80.667	0.00	0.03	0.027	o					0.02
80.750	0.00	0.03	0.026	o					0.02
80.833	0.00	0.03	0.026	o					0.02
80.917	0.00	0.03	0.026	o					0.02
81.000	0.00	0.03	0.026	o					0.02
81.083	0.00	0.03	0.026	o					0.02
81.167	0.00	0.03	0.025	o					0.02
81.250	0.00	0.03	0.025	o					0.01
81.333	0.00	0.03	0.025	o					0.01
81.417	0.00	0.03	0.025	o					0.01
81.500	0.00	0.03	0.025	o					0.01
81.583	0.00	0.03	0.025	o					0.01
81.667	0.00	0.03	0.024	o					0.01
81.750	0.00	0.03	0.024	o					0.01
81.833	0.00	0.03	0.024	o					0.01
81.917	0.00	0.03	0.024	o					0.01
82.000	0.00	0.03	0.024	o					0.01
82.083	0.00	0.03	0.023	o					0.01
82.167	0.00	0.03	0.023	o					0.01
82.250	0.00	0.03	0.023	o					0.01
82.333	0.00	0.03	0.023	o					0.01
82.417	0.00	0.03	0.023	o					0.01
82.500	0.00	0.03	0.022	o					0.01
82.583	0.00	0.03	0.022	o					0.01
82.667	0.00	0.02	0.022	o					0.01
82.750	0.00	0.02	0.022	o					0.01
82.833	0.00	0.02	0.022	o					0.01
82.917	0.00	0.02	0.022	o					0.01
83.000	0.00	0.02	0.021	o					0.01
83.083	0.00	0.02	0.021	o					0.01
83.167	0.00	0.02	0.021	o					0.01
83.250	0.00	0.02	0.021	o					0.01
83.333	0.00	0.02	0.021	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.02	0.021	o					0.01
83.500	0.00	0.02	0.020	o					0.01
83.583	0.00	0.02	0.020	o					0.01
83.667	0.00	0.02	0.020	o					0.01
83.750	0.00	0.02	0.020	o					0.01
83.833	0.00	0.02	0.020	o					0.01
83.917	0.00	0.02	0.020	o					0.01
84.000	0.00	0.02	0.020	o					0.01
84.083	0.00	0.02	0.019	o					0.01
84.167	0.00	0.02	0.019	o					0.01
84.250	0.00	0.02	0.019	o					0.01
84.333	0.00	0.02	0.019	o					0.01
84.417	0.00	0.02	0.019	o					0.01
84.500	0.00	0.02	0.019	o					0.01
84.583	0.00	0.02	0.019	o					0.01
84.667	0.00	0.02	0.018	o					0.01
84.750	0.00	0.02	0.018	o					0.01
84.833	0.00	0.02	0.018	o					0.01
84.917	0.00	0.02	0.018	o					0.01
85.000	0.00	0.02	0.018	o					0.01
85.083	0.00	0.02	0.018	o					0.01
85.167	0.00	0.02	0.018	o					0.01
85.250	0.00	0.02	0.017	o					0.01
85.333	0.00	0.02	0.017	o					0.01
85.417	0.00	0.02	0.017	o					0.01
85.500	0.00	0.02	0.017	o					0.01
85.583	0.00	0.02	0.017	o					0.01
85.667	0.00	0.02	0.017	o					0.01
85.750	0.00	0.02	0.017	o					0.01
85.833	0.00	0.02	0.016	o					0.01
85.917	0.00	0.02	0.016	o					0.01
86.000	0.00	0.02	0.016	o					0.01
86.083	0.00	0.02	0.016	o					0.01
86.167	0.00	0.02	0.016	o					0.01
86.250	0.00	0.02	0.016	o					0.01
86.333	0.00	0.02	0.016	o					0.01
86.417	0.00	0.02	0.016	o					0.01
86.500	0.00	0.02	0.015	o					0.01
86.583	0.00	0.02	0.015	o					0.01
86.667	0.00	0.02	0.015	o					0.01
86.750	0.00	0.02	0.015	o					0.01
86.833	0.00	0.02	0.015	o					0.01
86.917	0.00	0.02	0.015	o					0.01
87.000	0.00	0.02	0.015	o					0.01
87.083	0.00	0.02	0.015	o					0.01
87.167	0.00	0.02	0.015	o					0.01
87.250	0.00	0.02	0.014	o					0.01
87.333	0.00	0.02	0.014	o					0.01
87.417	0.00	0.02	0.014	o					0.01
87.500	0.00	0.02	0.014	o					0.01
87.583	0.00	0.02	0.014	o					0.01
87.667	0.00	0.02	0.014	o					0.01
87.750	0.00	0.02	0.014	o					0.01
87.833	0.00	0.02	0.014	o					0.01
87.917	0.00	0.02	0.014	o					0.01
88.000	0.00	0.02	0.013	o					0.01
88.083	0.00	0.02	0.013	o					0.01
88.167	0.00	0.01	0.013	o					0.01
88.250	0.00	0.01	0.013	o					0.01
88.333	0.00	0.01	0.013	o					0.01
88.417	0.00	0.01	0.013	o					0.01
88.500	0.00	0.01	0.013	o					0.01
88.583	0.00	0.01	0.013	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.01	0.013	o					0.01
88.750	0.00	0.01	0.013	o					0.01
88.833	0.00	0.01	0.012	o					0.01
88.917	0.00	0.01	0.012	o					0.01
89.000	0.00	0.01	0.012	o					0.01
89.083	0.00	0.01	0.012	o					0.01
89.167	0.00	0.01	0.012	o					0.01
89.250	0.00	0.01	0.012	o					0.01
89.333	0.00	0.01	0.012	o					0.01
89.417	0.00	0.01	0.012	o					0.01
89.500	0.00	0.01	0.012	o					0.01
89.583	0.00	0.01	0.012	o					0.01
89.667	0.00	0.01	0.012	o					0.01
89.750	0.00	0.01	0.011	o					0.01
89.833	0.00	0.01	0.011	o					0.01
89.917	0.00	0.01	0.011	o					0.01
90.000	0.00	0.01	0.011	o					0.01
90.083	0.00	0.01	0.011	o					0.01
90.167	0.00	0.01	0.011	o					0.01
90.250	0.00	0.01	0.011	o					0.01
90.333	0.00	0.01	0.011	o					0.01
90.417	0.00	0.01	0.011	o					0.01
90.500	0.00	0.01	0.011	o					0.01
90.583	0.00	0.01	0.011	o					0.01
90.667	0.00	0.01	0.011	o					0.01
90.750	0.00	0.01	0.010	o					0.01
90.833	0.00	0.01	0.010	o					0.01
90.917	0.00	0.01	0.010	o					0.01
91.000	0.00	0.01	0.010	o					0.01
91.083	0.00	0.01	0.010	o					0.01
91.167	0.00	0.01	0.010	o					0.01
91.250	0.00	0.01	0.010	o					0.01
91.333	0.00	0.01	0.010	o					0.01
91.417	0.00	0.01	0.010	o					0.01
91.500	0.00	0.01	0.010	o					0.01
91.583	0.00	0.01	0.010	o					0.01
91.667	0.00	0.01	0.010	o					0.01
91.750	0.00	0.01	0.009	o					0.01
91.833	0.00	0.01	0.009	o					0.01
91.917	0.00	0.01	0.009	o					0.01
92.000	0.00	0.01	0.009	o					0.01
92.083	0.00	0.01	0.009	o					0.01
92.167	0.00	0.01	0.009	o					0.01
92.250	0.00	0.01	0.009	o					0.01
92.333	0.00	0.01	0.009	o					0.01
92.417	0.00	0.01	0.009	o					0.01
92.500	0.00	0.01	0.009	o					0.01
92.583	0.00	0.01	0.009	o					0.01
92.667	0.00	0.01	0.009	o					0.01
92.750	0.00	0.01	0.009	o					0.01
92.833	0.00	0.01	0.009	o					0.01
92.917	0.00	0.01	0.009	o					0.01
93.000	0.00	0.01	0.008	o					0.00
93.083	0.00	0.01	0.008	o					0.00
93.167	0.00	0.01	0.008	o					0.00
93.250	0.00	0.01	0.008	o					0.00
93.333	0.00	0.01	0.008	o					0.00
93.417	0.00	0.01	0.008	o					0.00
93.500	0.00	0.01	0.008	o					0.00
93.583	0.00	0.01	0.008	o					0.00
93.667	0.00	0.01	0.008	o					0.00
93.750	0.00	0.01	0.008	o					0.00
93.833	0.00	0.01	0.008	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.01	0.008	o					0.00
94.000	0.00	0.01	0.008	o					0.00
94.083	0.00	0.01	0.008	o					0.00
94.167	0.00	0.01	0.008	o					0.00
94.250	0.00	0.01	0.008	o					0.00
94.333	0.00	0.01	0.007	o					0.00
94.417	0.00	0.01	0.007	o					0.00
94.500	0.00	0.01	0.007	o					0.00
94.583	0.00	0.01	0.007	o					0.00
94.667	0.00	0.01	0.007	o					0.00
94.750	0.00	0.01	0.007	o					0.00
94.833	0.00	0.01	0.007	o					0.00
94.917	0.00	0.01	0.007	o					0.00
95.000	0.00	0.01	0.007	o					0.00
95.083	0.00	0.01	0.007	o					0.00
95.167	0.00	0.01	0.007	o					0.00
95.250	0.00	0.01	0.007	o					0.00
95.333	0.00	0.01	0.007	o					0.00
95.417	0.00	0.01	0.007	o					0.00
95.500	0.00	0.01	0.007	o					0.00
95.583	0.00	0.01	0.007	o					0.00
95.667	0.00	0.01	0.007	o					0.00
95.750	0.00	0.01	0.007	o					0.00
95.833	0.00	0.01	0.006	o					0.00
95.917	0.00	0.01	0.006	o					0.00
96.000	0.00	0.01	0.006	o					0.00
96.083	0.00	0.01	0.006	o					0.00
96.167	0.00	0.01	0.006	o					0.00
96.250	0.00	0.01	0.006	o					0.00
96.333	0.00	0.01	0.006	o					0.00
96.417	0.00	0.01	0.006	o					0.00
96.500	0.00	0.01	0.006	o					0.00
96.583	0.00	0.01	0.006	o					0.00
96.667	0.00	0.01	0.006	o					0.00
96.750	0.00	0.01	0.006	o					0.00
96.833	0.00	0.01	0.006	o					0.00
96.917	0.00	0.01	0.006	o					0.00
97.000	0.00	0.01	0.006	o					0.00
97.083	0.00	0.01	0.006	o					0.00
97.167	0.00	0.01	0.006	o					0.00
97.250	0.00	0.01	0.006	o					0.00
97.333	0.00	0.01	0.006	o					0.00
97.417	0.00	0.01	0.006	o					0.00
97.500	0.00	0.01	0.006	o					0.00
97.583	0.00	0.01	0.006	o					0.00
97.667	0.00	0.01	0.005	o					0.00
97.750	0.00	0.01	0.005	o					0.00
97.833	0.00	0.01	0.005	o					0.00
97.917	0.00	0.01	0.005	o					0.00
98.000	0.00	0.01	0.005	o					0.00
98.083	0.00	0.01	0.005	o					0.00
98.167	0.00	0.01	0.005	o					0.00
98.250	0.00	0.01	0.005	o					0.00
98.333	0.00	0.01	0.005	o					0.00
98.417	0.00	0.01	0.005	o					0.00
98.500	0.00	0.01	0.005	o					0.00
98.583	0.00	0.01	0.005	o					0.00
98.667	0.00	0.01	0.005	o					0.00
98.750	0.00	0.01	0.005	o					0.00
98.833	0.00	0.01	0.005	o					0.00
98.917	0.00	0.01	0.005	o					0.00
99.000	0.00	0.01	0.005	o					0.00
99.083	0.00	0.01	0.005	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.01	0.005	o					0.00
99.250	0.00	0.01	0.005	o					0.00
99.333	0.00	0.01	0.005	o					0.00
99.417	0.00	0.01	0.005	o					0.00
99.500	0.00	0.01	0.005	o					0.00
99.583	0.00	0.01	0.005	o					0.00
99.667	0.00	0.01	0.005	o					0.00
99.750	0.00	0.01	0.005	o					0.00
99.833	0.00	0.01	0.004	o					0.00
99.917	0.00	0.01	0.004	o					0.00
100.000	0.00	0.00	0.004	o					0.00
100.083	0.00	0.00	0.004	o					0.00
100.167	0.00	0.00	0.004	o					0.00
100.250	0.00	0.00	0.004	o					0.00
100.333	0.00	0.00	0.004	o					0.00
100.417	0.00	0.00	0.004	o					0.00
100.500	0.00	0.00	0.004	o					0.00
100.583	0.00	0.00	0.004	o					0.00
100.667	0.00	0.00	0.004	o					0.00
100.750	0.00	0.00	0.004	o					0.00
100.833	0.00	0.00	0.004	o					0.00
100.917	0.00	0.00	0.004	o					0.00
101.000	0.00	0.00	0.004	o					0.00
101.083	0.00	0.00	0.004	o					0.00
101.167	0.00	0.00	0.004	o					0.00
101.250	0.00	0.00	0.004	o					0.00
101.333	0.00	0.00	0.004	o					0.00
101.417	0.00	0.00	0.004	o					0.00
101.500	0.00	0.00	0.004	o					0.00
101.583	0.00	0.00	0.004	o					0.00
101.667	0.00	0.00	0.004	o					0.00
101.750	0.00	0.00	0.004	o					0.00
101.833	0.00	0.00	0.004	o					0.00
101.917	0.00	0.00	0.004	o					0.00
102.000	0.00	0.00	0.004	o					0.00
102.083	0.00	0.00	0.004	o					0.00
102.167	0.00	0.00	0.004	o					0.00
102.250	0.00	0.00	0.004	o					0.00
102.333	0.00	0.00	0.004	o					0.00
102.417	0.00	0.00	0.004	o					0.00
102.500	0.00	0.00	0.003	o					0.00
102.583	0.00	0.00	0.003	o					0.00
102.667	0.00	0.00	0.003	o					0.00
102.750	0.00	0.00	0.003	o					0.00
102.833	0.00	0.00	0.003	o					0.00
102.917	0.00	0.00	0.003	o					0.00
103.000	0.00	0.00	0.003	o					0.00
103.083	0.00	0.00	0.003	o					0.00
103.167	0.00	0.00	0.003	o					0.00
103.250	0.00	0.00	0.003	o					0.00
103.333	0.00	0.00	0.003	o					0.00
103.417	0.00	0.00	0.003	o					0.00
103.500	0.00	0.00	0.003	o					0.00
103.583	0.00	0.00	0.003	o					0.00
103.667	0.00	0.00	0.003	o					0.00
103.750	0.00	0.00	0.003	o					0.00
103.833	0.00	0.00	0.003	o					0.00
103.917	0.00	0.00	0.003	o					0.00
104.000	0.00	0.00	0.003	o					0.00
104.083	0.00	0.00	0.003	o					0.00
104.167	0.00	0.00	0.003	o					0.00
104.250	0.00	0.00	0.003	o					0.00
104.333	0.00	0.00	0.003	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.00	0.003	o					0.00
104.500	0.00	0.00	0.003	o					0.00
104.583	0.00	0.00	0.003	o					0.00
104.667	0.00	0.00	0.003	o					0.00
104.750	0.00	0.00	0.003	o					0.00
104.833	0.00	0.00	0.003	o					0.00
104.917	0.00	0.00	0.003	o					0.00
105.000	0.00	0.00	0.003	o					0.00
105.083	0.00	0.00	0.003	o					0.00
105.167	0.00	0.00	0.003	o					0.00
105.250	0.00	0.00	0.003	o					0.00
105.333	0.00	0.00	0.003	o					0.00
105.417	0.00	0.00	0.003	o					0.00
105.500	0.00	0.00	0.003	o					0.00
105.583	0.00	0.00	0.003	o					0.00
105.667	0.00	0.00	0.003	o					0.00
105.750	0.00	0.00	0.003	o					0.00
105.833	0.00	0.00	0.003	o					0.00
105.917	0.00	0.00	0.003	o					0.00
106.000	0.00	0.00	0.003	o					0.00
106.083	0.00	0.00	0.002	o					0.00
106.167	0.00	0.00	0.002	o					0.00
106.250	0.00	0.00	0.002	o					0.00
106.333	0.00	0.00	0.002	o					0.00
106.417	0.00	0.00	0.002	o					0.00
106.500	0.00	0.00	0.002	o					0.00
106.583	0.00	0.00	0.002	o					0.00
106.667	0.00	0.00	0.002	o					0.00
106.750	0.00	0.00	0.002	o					0.00
106.833	0.00	0.00	0.002	o					0.00
106.917	0.00	0.00	0.002	o					0.00
107.000	0.00	0.00	0.002	o					0.00
107.083	0.00	0.00	0.002	o					0.00
107.167	0.00	0.00	0.002	o					0.00
107.250	0.00	0.00	0.002	o					0.00
107.333	0.00	0.00	0.002	o					0.00
107.417	0.00	0.00	0.002	o					0.00
107.500	0.00	0.00	0.002	o					0.00
107.583	0.00	0.00	0.002	o					0.00
107.667	0.00	0.00	0.002	o					0.00
107.750	0.00	0.00	0.002	o					0.00
107.833	0.00	0.00	0.002	o					0.00
107.917	0.00	0.00	0.002	o					0.00
108.000	0.00	0.00	0.002	o					0.00
108.083	0.00	0.00	0.002	o					0.00
108.167	0.00	0.00	0.002	o					0.00
108.250	0.00	0.00	0.002	o					0.00
108.333	0.00	0.00	0.002	o					0.00
108.417	0.00	0.00	0.002	o					0.00
108.500	0.00	0.00	0.002	o					0.00
108.583	0.00	0.00	0.002	o					0.00
108.667	0.00	0.00	0.002	o					0.00
108.750	0.00	0.00	0.002	o					0.00
108.833	0.00	0.00	0.002	o					0.00
108.917	0.00	0.00	0.002	o					0.00
109.000	0.00	0.00	0.002	o					0.00
109.083	0.00	0.00	0.002	o					0.00
109.167	0.00	0.00	0.002	o					0.00
109.250	0.00	0.00	0.002	o					0.00
109.333	0.00	0.00	0.002	o					0.00
109.417	0.00	0.00	0.002	o					0.00
109.500	0.00	0.00	0.002	o					0.00
109.583	0.00	0.00	0.002	o					0.00



**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

109.667	0.00	0.00	0.002	o					0.00
109.750	0.00	0.00	0.002	o					0.00
109.833	0.00	0.00	0.002	o					0.00
109.917	0.00	0.00	0.002	o					0.00
110.000	0.00	0.00	0.002	o					0.00
110.083	0.00	0.00	0.002	o					0.00
110.167	0.00	0.00	0.002	o					0.00
110.250	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```
*****HYDROGRAPH DATA*****
      Number of intervals = 1323
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 2.820 (CFS)
      Total volume = 8.501 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****
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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 5-year 24-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx5prh245.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 294  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 24.039 (CFS)  
 Total volume = 14.643 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 294  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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Hydrograph Detention Basin Routing  
-----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	6.0	12.02	18.03	24.04	Depth (Ft.)
0.083	0.35	0.00	0.001	O					0.00
0.167	1.04	0.01	0.006	OI					0.00
0.250	1.23	0.02	0.014	OI					0.01
0.333	1.49	0.03	0.023	OI					0.01
0.417	1.89	0.04	0.034	O I					0.02
0.500	2.01	0.05	0.047	O I					0.03
0.583	2.08	0.07	0.061	O I					0.04
0.667	2.10	0.08	0.075	O I					0.04
0.750	2.11	0.10	0.089	O I					0.05
0.833	2.30	0.12	0.103	O I					0.06
0.917	2.65	0.13	0.119	O I					0.07
1.000	2.74	0.15	0.137	O I					0.08
1.083	2.61	0.17	0.154	O I					0.09
1.167	2.29	0.19	0.170	O I					0.10
1.250	2.21	0.21	0.184	O I					0.11
1.333	2.18	0.22	0.198	O I					0.12
1.417	2.15	0.24	0.211	O I					0.12
1.500	2.14	0.25	0.224	O I					0.13
1.583	2.13	0.27	0.237	O I					0.14
1.667	2.13	0.28	0.250	O I					0.15
1.750	2.13	0.30	0.262	O I					0.15
1.833	2.30	0.31	0.275	O I					0.16
1.917	2.65	0.33	0.290	O I					0.17
2.000	2.74	0.35	0.306	O I					0.18
2.083	2.78	0.36	0.323	O I					0.19
2.167	2.81	0.38	0.340	O I					0.20
2.250	2.82	0.40	0.356	O I					0.21
2.333	2.83	0.42	0.373	O I					0.22
2.417	2.83	0.44	0.390	O I					0.23
2.500	2.83	0.46	0.406	O I					0.24
2.583	3.01	0.48	0.423	O I					0.25
2.667	3.35	0.50	0.442	O I					0.26
2.750	3.45	0.52	0.461	O I					0.27
2.833	3.49	0.54	0.482	O I					0.28
2.917	3.52	0.57	0.502	O I					0.30
3.000	3.53	0.59	0.522	O I					0.31
3.083	3.54	0.61	0.543	O I					0.32
3.167	3.54	0.63	0.563	O I					0.33
3.250	3.54	0.66	0.583	O I					0.34
3.333	3.54	0.68	0.602	O I					0.36
3.417	3.54	0.70	0.622	O I					0.37
3.500	3.54	0.72	0.642	O I					0.38
3.583	3.54	0.75	0.661	O I					0.39
3.667	3.54	0.77	0.680	O I					0.40
3.750	3.54	0.79	0.699	O I					0.41
3.833	3.72	0.81	0.719	O I					0.42
3.917	4.06	0.83	0.740	O I					0.44
4.000	4.16	0.86	0.762	O I					0.45
4.083	4.20	0.89	0.785	O I					0.46
4.167	4.23	0.91	0.808	O I					0.48
4.250	4.24	0.94	0.831	O I					0.49
4.333	4.43	0.96	0.854	O I					0.50
4.417	4.77	0.99	0.879	O I					0.52
4.500	4.87	1.02	0.905	O I					0.53
4.583	4.91	1.05	0.932	O I					0.55

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	4.94	1.08	0.958	O	I					0.57
4.750	4.95	1.11	0.985	O	I					0.58
4.833	5.13	1.14	1.012	O	I					0.60
4.917	5.48	1.17	1.040	O	I					0.61
5.000	5.58	1.21	1.070	O	I					0.63
5.083	5.27	1.24	1.099	O	I					0.65
5.167	4.61	1.27	1.124	O	I					0.66
5.250	4.43	1.29	1.147	O	I					0.68
5.333	4.53	1.32	1.169	O	I					0.69
5.417	4.82	1.34	1.192	O	I					0.70
5.500	4.89	1.37	1.216	O	I					0.72
5.583	5.08	1.40	1.241	O	I					0.73
5.667	5.45	1.43	1.267	O	I					0.75
5.750	5.56	1.46	1.295	O	I					0.76
5.833	5.62	1.49	1.323	O	I					0.78
5.917	5.64	1.53	1.352	O	I					0.80
6.000	5.66	1.56	1.380	O	I					0.82
6.083	5.84	1.59	1.409	O	I					0.83
6.167	6.19	1.62	1.439	O	I					0.85
6.250	6.28	1.66	1.471	O	I					0.87
6.333	6.33	1.70	1.503	O	I					0.89
6.417	6.35	1.73	1.535	O	I					0.91
6.500	6.37	1.77	1.566	O	I					0.93
6.583	6.55	1.80	1.599	O	I					0.94
6.667	6.90	1.84	1.632	O	I					0.96
6.750	6.99	1.88	1.667	O	I					0.98
6.833	7.04	1.91	1.703	O	I					1.00
6.917	7.06	1.92	1.738	O	I					1.02
7.000	7.08	1.93	1.773	O	I					1.04
7.083	7.09	1.93	1.809	O	I					1.05
7.167	7.09	1.94	1.844	O	I					1.07
7.250	7.09	1.95	1.880	O	I					1.09
7.333	7.26	1.96	1.916	O	I					1.11
7.417	7.61	1.96	1.953	O	I					1.12
7.500	7.70	1.97	1.993	O	I					1.14
7.583	7.92	1.98	2.033	O	I					1.16
7.667	8.29	1.99	2.075	O	I					1.18
7.750	8.40	2.00	2.119	O	I					1.20
7.833	8.63	2.01	2.164	O	I					1.22
7.917	9.00	2.02	2.210	O	I					1.24
8.000	9.11	2.03	2.259	O	I					1.27
8.083	9.51	2.04	2.309	O	I					1.29
8.167	10.23	2.05	2.363	O	I					1.32
8.250	10.43	2.06	2.420	O	I					1.34
8.333	10.53	2.07	2.478	O	I					1.37
8.417	10.58	2.08	2.536	O	I					1.40
8.500	10.61	2.09	2.595	O	I					1.43
8.583	10.80	2.11	2.654	O	I					1.45
8.667	11.15	2.12	2.715	O	I					1.48
8.750	11.25	2.13	2.778	O	I					1.51
8.833	11.46	2.14	2.841	O	I					1.54
8.917	11.83	2.16	2.906	O	I					1.57
9.000	11.94	2.17	2.973	O	I					1.61
9.083	12.34	2.18	3.042	O	I					1.64
9.167	13.06	2.20	3.114	O	I					1.67
9.250	13.27	2.21	3.190	O	I					1.71
9.333	13.54	2.23	3.267	O	I					1.74
9.417	13.93	2.25	3.346	O	I					1.78
9.500	14.06	2.26	3.427	O	I					1.82
9.583	14.30	2.28	3.509	O	I					1.86
9.667	14.67	2.30	3.593	O	I					1.90
9.750	14.78	2.31	3.678	O	I					1.94
9.833	15.01	2.33	3.765	O	I					1.98

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	15.38	2.35	3.854		O			I			2.02
10.000	15.49	2.36	3.944		O			I			2.05
10.083	14.33	2.37	4.030		O			I			2.08
10.167	11.93	2.38	4.104		O			I			2.11
10.250	11.27	2.39	4.168		O			I			2.13
10.333	10.98	2.40	4.228		O			I			2.15
10.417	10.81	2.41	4.286		O			I			2.18
10.500	10.71	2.41	4.344		O			I			2.20
10.583	11.50	2.42	4.404		O			I			2.22
10.667	13.23	2.43	4.472		O			I			2.24
10.750	13.71	2.44	4.548		O			I			2.27
10.833	13.92	2.45	4.626		O			I			2.30
10.917	14.05	2.46	4.706		O			I			2.33
11.000	14.12	2.47	4.786		O			I			2.36
11.083	14.00	2.48	4.865		O			I			2.39
11.167	13.65	2.49	4.944		O			I			2.42
11.250	13.56	2.50	5.020		O			I			2.45
11.333	13.52	2.51	5.096		O			I			2.47
11.417	13.49	2.53	5.172		O			I			2.50
11.500	13.48	2.54	5.247		O			I			2.53
11.583	13.12	2.55	5.321		O			I			2.56
11.667	12.43	2.56	5.392		O			I			2.58
11.750	12.24	2.56	5.459		O			I			2.61
11.833	12.32	2.57	5.526		O			I			2.63
11.917	12.62	2.58	5.594		O			I			2.66
12.000	12.69	2.59	5.663		O			I			2.68
12.083	13.92	2.60	5.737		O			I			2.71
12.167	16.36	2.61	5.823		O			I			2.74
12.250	17.05	2.63	5.920		O			I			2.78
12.333	17.54	2.64	6.021		O			I			2.81
12.417	18.06	2.65	6.126		O			I			2.85
12.500	18.25	2.67	6.232		O			I			2.89
12.583	18.72	2.68	6.341		O			I			2.93
12.667	19.44	2.70	6.454		O			I			2.97
12.750	19.65	2.71	6.570		O			I			3.01
12.833	19.92	2.73	6.687		O			I			3.05
12.917	20.31	2.74	6.807		O			I			3.09
13.000	20.44	2.75	6.929		O			I			3.12
13.083	21.37	2.76	7.054		O			I			3.16
13.167	23.12	2.78	7.188		O			I			3.20
13.250	23.62	2.79	7.330		O			I			3.25
13.333	23.85	2.80	7.474		O			I			3.29
13.417	23.97	2.82	7.619		O			I			3.34
13.500	24.04	2.83	7.765		O			I			3.38
13.583	22.19	2.85	7.904		O			I			3.43
13.667	18.39	2.86	8.025		O			I			3.46
13.750	17.33	2.87	8.128		O			I			3.50
13.833	16.85	2.88	8.226		O			I			3.53
13.917	16.58	2.89	8.321		O			I			3.56
14.000	16.43	2.90	8.415		O			I			3.59
14.083	16.99	2.91	8.510		O			I			3.62
14.167	18.38	2.92	8.612		O			I			3.65
14.250	18.76	2.93	8.719		O			I			3.68
14.333	18.76	2.94	8.828		O			I			3.72
14.417	18.51	2.95	8.936		O			I			3.75
14.500	18.47	2.96	9.043		O			I			3.78
14.583	18.48	2.97	9.150		O			I			3.82
14.667	18.45	2.98	9.257		O			I			3.85
14.750	18.44	2.99	9.363		O			I			3.88
14.833	18.25	3.00	9.469		O			I			3.92
14.917	17.91	3.01	9.573		O			I			3.95
15.000	17.81	3.02	9.675		O			I			3.98
15.083	17.59	3.32	9.775		O			I			4.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.167	17.22	4.13	9.869		O			I			4.04
15.250	17.11	4.88	9.957		O			I			4.06
15.333	16.89	5.57	10.038		O			I			4.08
15.417	16.52	6.21	10.112		O			I			4.11
15.500	16.41	6.80	10.181		IO			I			4.12
15.583	15.66	7.33	10.242		IO			I			4.14
15.667	14.25	7.77	10.293			O		I			4.16
15.750	13.85	8.13	10.336			O		I			4.17
15.833	13.67	8.45	10.373			O		I			4.18
15.917	13.57	8.74	10.408			O		I			4.19
16.000	13.51	9.02	10.440			O		I			4.20
16.083	10.86	9.20	10.461			O	I				4.20
16.167	5.68	9.15	10.455		I		O				4.20
16.250	4.24	8.91	10.427		I		O				4.19
16.333	3.59	8.62	10.393		I		O				4.18
16.417	3.22	8.32	10.358		I		O				4.17
16.500	3.01	8.02	10.324		I		O				4.16
16.583	2.66	7.73	10.289		I		O				4.16
16.667	2.32	7.43	10.254		I		IO				4.15
16.750	2.22	7.13	10.219		I		IO				4.14
16.833	2.18	6.85	10.186		I		IO				4.13
16.917	2.15	6.58	10.155		I		O				4.12
17.000	2.14	6.32	10.125		I		O				4.11
17.083	2.47	6.09	10.098		I		O				4.10
17.167	3.16	5.91	10.077		I	O					4.09
17.250	3.36	5.75	10.059		I	O					4.09
17.333	3.44	5.62	10.043		I	O					4.09
17.417	3.49	5.50	10.029		I	O					4.08
17.500	3.52	5.38	10.015		I	O					4.08
17.583	3.54	5.28	10.003		I	O					4.07
17.667	3.54	5.18	9.991		I	O					4.07
17.750	3.54	5.08	9.981		I	O					4.07
17.833	3.37	4.99	9.970		I	O					4.06
17.917	3.02	4.89	9.958		I	O					4.06
18.000	2.93	4.78	9.945		I	O					4.06
18.083	2.88	4.67	9.932		I	O					4.05
18.167	2.86	4.57	9.920		I	O					4.05
18.250	2.85	4.47	9.909		I	O					4.05
18.333	2.83	4.38	9.898		I	O					4.04
18.417	2.83	4.29	9.888		I	O					4.04
18.500	2.83	4.20	9.878		I	O					4.04
18.583	2.66	4.12	9.868		I	O					4.04
18.667	2.32	4.03	9.857		I	O					4.03
18.750	2.22	3.93	9.846		I	O					4.03
18.833	2.00	3.82	9.833		I	O					4.03
18.917	1.63	3.71	9.820		I	O					4.02
19.000	1.52	3.58	9.806		I	O					4.02
19.083	1.64	3.47	9.792		I	O					4.01
19.167	1.96	3.37	9.781		I	O					4.01
19.250	2.04	3.30	9.772		I	O					4.01
19.333	2.25	3.23	9.764		I	O					4.01
19.417	2.62	3.18	9.759		IO						4.01
19.500	2.73	3.16	9.756		IO						4.00
19.583	2.61	3.13	9.752		IO						4.00
19.667	2.29	3.09	9.748		IO						4.00
19.750	2.21	3.04	9.742		I	O					4.00
19.833	2.00	3.03	9.736		I	O					4.00
19.917	1.63	3.03	9.727		I	O					4.00
20.000	1.52	3.03	9.717		I	O					3.99
20.083	1.64	3.03	9.708		I	O					3.99
20.167	1.96	3.03	9.699		I	O					3.99
20.250	2.04	3.03	9.692		I	O					3.98
20.333	2.08	3.02	9.685		I	O					3.98

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	2.10	3.02	9.679	I O				3.98
20.500	2.11	3.02	9.673	I O				3.98
20.583	2.13	3.02	9.666	I O				3.98
20.667	2.13	3.02	9.660	I O				3.97
20.750	2.13	3.02	9.654	I O				3.97
20.833	1.95	3.02	9.647	I O				3.97
20.917	1.61	3.02	9.639	I O				3.97
21.000	1.51	3.02	9.629	I O				3.96
21.083	1.64	3.02	9.619	I O				3.96
21.167	1.96	3.02	9.610	I O				3.96
21.250	2.04	3.02	9.603	I O				3.96
21.333	1.90	3.02	9.596	I O				3.95
21.417	1.58	3.01	9.587	I O				3.95
21.500	1.50	3.01	9.577	I O				3.95
21.583	1.64	3.01	9.567	I O				3.95
21.667	1.96	3.01	9.559	I O				3.94
21.750	2.04	3.01	9.552	I O				3.94
21.833	1.90	3.01	9.545	I O				3.94
21.917	1.58	3.01	9.536	I O				3.94
22.000	1.50	3.01	9.526	I O				3.93
22.083	1.64	3.01	9.516	I O				3.93
22.167	1.96	3.01	9.508	I O				3.93
22.250	2.04	3.01	9.501	I O				3.93
22.333	1.90	3.01	9.494	I O				3.92
22.417	1.58	3.00	9.485	IO				3.92
22.500	1.50	3.00	9.475	I O				3.92
22.583	1.47	3.00	9.465	I O				3.91
22.667	1.44	3.00	9.454	I O				3.91
22.750	1.43	3.00	9.443	I O				3.91
22.833	1.42	3.00	9.432	I O				3.90
22.917	1.42	3.00	9.421	I O				3.90
23.000	1.42	3.00	9.411	I O				3.90
23.083	1.42	3.00	9.400	I O				3.89
23.167	1.42	2.99	9.389	I O				3.89
23.250	1.42	2.99	9.378	I O				3.89
23.333	1.42	2.99	9.367	I O				3.88
23.417	1.42	2.99	9.356	I O				3.88
23.500	1.42	2.99	9.345	I O				3.88
23.583	1.42	2.99	9.335	I O				3.87
23.667	1.42	2.99	9.324	I O				3.87
23.750	1.42	2.99	9.313	I O				3.87
23.833	1.42	2.99	9.302	I O				3.86
23.917	1.42	2.99	9.291	I O				3.86
24.000	1.42	2.98	9.281	I O				3.86
24.083	1.07	2.98	9.269	I O				3.85
24.167	0.38	2.98	9.253	I O				3.85
24.250	0.19	2.98	9.234	I O				3.84
24.333	0.10	2.98	9.215	I O				3.84
24.417	0.05	2.98	9.195	I O				3.83
24.500	0.02	2.97	9.175	I O				3.82
24.583	0.00	2.97	9.154	I O				3.82
24.667	0.00	2.97	9.134	I O				3.81
24.750	0.00	2.97	9.113	I O				3.80
24.833	0.00	2.97	9.093	I O				3.80
24.917	0.00	2.96	9.073	I O				3.79
25.000	0.00	2.96	9.052	I O				3.79
25.083	0.00	2.96	9.032	I O				3.78
25.167	0.00	2.96	9.011	I O				3.77
25.250	0.00	2.96	8.991	I O				3.77
25.333	0.00	2.95	8.971	I O				3.76
25.417	0.00	2.95	8.950	I O				3.75
25.500	0.00	2.95	8.930	I O				3.75
25.583	0.00	2.95	8.910	I O				3.74

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.95	8.890	I	O					3.73
25.750	0.00	2.94	8.869	I	O					3.73
25.833	0.00	2.94	8.849	I	O					3.72
25.917	0.00	2.94	8.829	I	O					3.72
26.000	0.00	2.94	8.808	I	O					3.71
26.083	0.00	2.93	8.788	I	O					3.70
26.167	0.00	2.93	8.768	I	O					3.70
26.250	0.00	2.93	8.748	I	O					3.69
26.333	0.00	2.93	8.728	I	O					3.68
26.417	0.00	2.93	8.708	I	O					3.68
26.500	0.00	2.92	8.687	I	O					3.67
26.583	0.00	2.92	8.667	I	O					3.67
26.667	0.00	2.92	8.647	I	O					3.66
26.750	0.00	2.92	8.627	I	O					3.65
26.833	0.00	2.92	8.607	I	O					3.65
26.917	0.00	2.91	8.587	I	O					3.64
27.000	0.00	2.91	8.567	I	O					3.63
27.083	0.00	2.91	8.547	I	O					3.63
27.167	0.00	2.91	8.527	I	O					3.62
27.250	0.00	2.91	8.507	I	O					3.62
27.333	0.00	2.90	8.487	I	O					3.61
27.417	0.00	2.90	8.467	I	O					3.60
27.500	0.00	2.90	8.447	I	O					3.60
27.583	0.00	2.90	8.427	I	O					3.59
27.667	0.00	2.90	8.407	I	O					3.58
27.750	0.00	2.89	8.387	I	O					3.58
27.833	0.00	2.89	8.367	I	O					3.57
27.917	0.00	2.89	8.347	I	O					3.57
28.000	0.00	2.89	8.327	I	O					3.56
28.083	0.00	2.89	8.307	I	O					3.55
28.167	0.00	2.88	8.287	I	O					3.55
28.250	0.00	2.88	8.267	I	O					3.54
28.333	0.00	2.88	8.248	I	O					3.53
28.417	0.00	2.88	8.228	I	O					3.53
28.500	0.00	2.88	8.208	I	O					3.52
28.583	0.00	2.88	8.188	I	O					3.52
28.667	0.00	2.87	8.168	I	O					3.51
28.750	0.00	2.87	8.149	I	O					3.50
28.833	0.00	2.87	8.129	I	O					3.50
28.917	0.00	2.87	8.109	I	O					3.49
29.000	0.00	2.87	8.089	I	O					3.48
29.083	0.00	2.86	8.070	I	O					3.48
29.167	0.00	2.86	8.050	I	O					3.47
29.250	0.00	2.86	8.030	I	O					3.47
29.333	0.00	2.86	8.010	I	O					3.46
29.417	0.00	2.86	7.991	I	O					3.45
29.500	0.00	2.85	7.971	I	O					3.45
29.583	0.00	2.85	7.951	I	O					3.44
29.667	0.00	2.85	7.932	I	O					3.44
29.750	0.00	2.85	7.912	I	O					3.43
29.833	0.00	2.85	7.893	I	O					3.42
29.917	0.00	2.84	7.873	I	O					3.42
30.000	0.00	2.84	7.853	I	O					3.41
30.083	0.00	2.84	7.834	I	O					3.41
30.167	0.00	2.84	7.814	I	O					3.40
30.250	0.00	2.84	7.795	I	O					3.39
30.333	0.00	2.83	7.775	I	O					3.39
30.417	0.00	2.83	7.756	I	O					3.38
30.500	0.00	2.83	7.736	I	O					3.37
30.583	0.00	2.83	7.717	I	O					3.37
30.667	0.00	2.83	7.697	I	O					3.36
30.750	0.00	2.82	7.678	I	O					3.36
30.833	0.00	2.82	7.658	I	O					3.35



**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

30.917	0.00	2.82	7.639	I	O					3.34
31.000	0.00	2.82	7.620	I	O					3.34
31.083	0.00	2.82	7.600	I	O					3.33
31.167	0.00	2.81	7.581	I	O					3.33
31.250	0.00	2.81	7.561	I	O					3.32
31.333	0.00	2.81	7.542	I	O					3.31
31.417	0.00	2.81	7.523	I	O					3.31
31.500	0.00	2.81	7.503	I	O					3.30
31.583	0.00	2.80	7.484	I	O					3.30
31.667	0.00	2.80	7.465	I	O					3.29
31.750	0.00	2.80	7.445	I	O					3.28
31.833	0.00	2.80	7.426	I	O					3.28
31.917	0.00	2.80	7.407	I	O					3.27
32.000	0.00	2.80	7.388	I	O					3.27
32.083	0.00	2.79	7.368	I	O					3.26
32.167	0.00	2.79	7.349	I	O					3.25
32.250	0.00	2.79	7.330	I	O					3.25
32.333	0.00	2.79	7.311	I	O					3.24
32.417	0.00	2.79	7.292	I	O					3.24
32.500	0.00	2.78	7.272	I	O					3.23
32.583	0.00	2.78	7.253	I	O					3.22
32.667	0.00	2.78	7.234	I	O					3.22
32.750	0.00	2.78	7.215	I	O					3.21
32.833	0.00	2.78	7.196	I	O					3.21
32.917	0.00	2.77	7.177	I	O					3.20
33.000	0.00	2.77	7.158	I	O					3.19
33.083	0.00	2.77	7.138	I	O					3.19
33.167	0.00	2.77	7.119	I	O					3.18
33.250	0.00	2.77	7.100	I	O					3.18
33.333	0.00	2.76	7.081	I	O					3.17
33.417	0.00	2.76	7.062	I	O					3.16
33.500	0.00	2.76	7.043	I	O					3.16
33.583	0.00	2.76	7.024	I	O					3.15
33.667	0.00	2.76	7.005	I	O					3.15
33.750	0.00	2.76	6.986	I	O					3.14
33.833	0.00	2.75	6.967	I	O					3.14
33.917	0.00	2.75	6.948	I	O					3.13
34.000	0.00	2.75	6.929	I	O					3.12
34.083	0.00	2.75	6.910	I	O					3.12
34.167	0.00	2.75	6.892	I	O					3.11
34.250	0.00	2.74	6.873	I	O					3.11
34.333	0.00	2.74	6.854	I	O					3.10
34.417	0.00	2.74	6.835	I	O					3.09
34.500	0.00	2.74	6.816	I	O					3.09
34.583	0.00	2.74	6.797	I	O					3.08
34.667	0.00	2.73	6.778	I	O					3.08
34.750	0.00	2.73	6.759	I	O					3.07
34.833	0.00	2.73	6.741	I	O					3.06
34.917	0.00	2.73	6.722	I	O					3.06
35.000	0.00	2.73	6.703	I	O					3.05
35.083	0.00	2.72	6.684	I	O					3.05
35.167	0.00	2.72	6.666	I	O					3.04
35.250	0.00	2.72	6.647	I	O					3.04
35.333	0.00	2.72	6.628	I	O					3.03
35.417	0.00	2.72	6.609	I	O					3.02
35.500	0.00	2.72	6.591	I	O					3.02
35.583	0.00	2.71	6.572	I	O					3.01
35.667	0.00	2.71	6.553	I	O					3.01
35.750	0.00	2.71	6.535	I	O					3.00
35.833	0.00	2.71	6.516	I	O					2.99
35.917	0.00	2.71	6.497	I	O					2.99
36.000	0.00	2.70	6.479	I	O					2.98
36.083	0.00	2.70	6.460	I	O					2.97

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	2.70	6.441	I	O					2.97
36.250	0.00	2.69	6.423	I	O					2.96
36.333	0.00	2.69	6.404	I	O					2.95
36.417	0.00	2.69	6.386	I	O					2.95
36.500	0.00	2.69	6.367	I	O					2.94
36.583	0.00	2.68	6.349	I	O					2.93
36.667	0.00	2.68	6.330	I	O					2.93
36.750	0.00	2.68	6.312	I	O					2.92
36.833	0.00	2.68	6.293	I	O					2.91
36.917	0.00	2.67	6.275	I	O					2.91
37.000	0.00	2.67	6.257	I	O					2.90
37.083	0.00	2.67	6.238	I	O					2.89
37.167	0.00	2.67	6.220	I	O					2.88
37.250	0.00	2.66	6.201	I	O					2.88
37.333	0.00	2.66	6.183	I	O					2.87
37.417	0.00	2.66	6.165	I	O					2.86
37.500	0.00	2.66	6.146	I	O					2.86
37.583	0.00	2.65	6.128	I	O					2.85
37.667	0.00	2.65	6.110	I	O					2.84
37.750	0.00	2.65	6.092	I	O					2.84
37.833	0.00	2.65	6.073	I	O					2.83
37.917	0.00	2.65	6.055	I	O					2.82
38.000	0.00	2.64	6.037	I	O					2.82
38.083	0.00	2.64	6.019	I	O					2.81
38.167	0.00	2.64	6.001	I	O					2.80
38.250	0.00	2.64	5.982	I	O					2.80
38.333	0.00	2.63	5.964	I	O					2.79
38.417	0.00	2.63	5.946	I	O					2.78
38.500	0.00	2.63	5.928	I	O					2.78
38.583	0.00	2.63	5.910	I	O					2.77
38.667	0.00	2.62	5.892	I	O					2.76
38.750	0.00	2.62	5.874	I	O					2.76
38.833	0.00	2.62	5.856	I	O					2.75
38.917	0.00	2.62	5.838	I	O					2.74
39.000	0.00	2.61	5.820	I	O					2.74
39.083	0.00	2.61	5.802	I	O					2.73
39.167	0.00	2.61	5.784	I	O					2.73
39.250	0.00	2.61	5.766	I	O					2.72
39.333	0.00	2.60	5.748	I	O					2.71
39.417	0.00	2.60	5.730	I	O					2.71
39.500	0.00	2.60	5.712	I	O					2.70
39.583	0.00	2.60	5.694	I	O					2.69
39.667	0.00	2.59	5.676	I	O					2.69
39.750	0.00	2.59	5.658	I	O					2.68
39.833	0.00	2.59	5.641	I	O					2.67
39.917	0.00	2.59	5.623	I	O					2.67
40.000	0.00	2.58	5.605	I	O					2.66
40.083	0.00	2.58	5.587	I	O					2.65
40.167	0.00	2.58	5.569	I	O					2.65
40.250	0.00	2.58	5.552	I	O					2.64
40.333	0.00	2.57	5.534	I	O					2.63
40.417	0.00	2.57	5.516	I	O					2.63
40.500	0.00	2.57	5.499	I	O					2.62
40.583	0.00	2.57	5.481	I	O					2.61
40.667	0.00	2.56	5.463	I	O					2.61
40.750	0.00	2.56	5.446	I	O					2.60
40.833	0.00	2.56	5.428	I	O					2.59
40.917	0.00	2.56	5.410	I	O					2.59
41.000	0.00	2.56	5.393	I	O					2.58
41.083	0.00	2.55	5.375	I	O					2.58
41.167	0.00	2.55	5.357	I	O					2.57
41.250	0.00	2.55	5.340	I	O					2.56
41.333	0.00	2.55	5.322	I	O					2.56

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	2.54	5.305	I	O					2.55
41.500	0.00	2.54	5.287	I	O					2.54
41.583	0.00	2.54	5.270	I	O					2.54
41.667	0.00	2.54	5.252	I	O					2.53
41.750	0.00	2.53	5.235	I	O					2.52
41.833	0.00	2.53	5.217	I	O					2.52
41.917	0.00	2.53	5.200	I	O					2.51
42.000	0.00	2.53	5.183	I	O					2.50
42.083	0.00	2.52	5.165	I	O					2.50
42.167	0.00	2.52	5.148	I	O					2.49
42.250	0.00	2.52	5.131	I	O					2.49
42.333	0.00	2.52	5.113	I	O					2.48
42.417	0.00	2.51	5.096	I	O					2.47
42.500	0.00	2.51	5.079	I	O					2.47
42.583	0.00	2.51	5.061	I	O					2.46
42.667	0.00	2.51	5.044	I	O					2.45
42.750	0.00	2.51	5.027	I	O					2.45
42.833	0.00	2.50	5.009	I	O					2.44
42.917	0.00	2.50	4.992	I	O					2.43
43.000	0.00	2.50	4.975	I	O					2.43
43.083	0.00	2.50	4.958	I	O					2.42
43.167	0.00	2.49	4.941	I	O					2.42
43.250	0.00	2.49	4.923	I	O					2.41
43.333	0.00	2.49	4.906	I	O					2.40
43.417	0.00	2.49	4.889	I	O					2.40
43.500	0.00	2.48	4.872	I	O					2.39
43.583	0.00	2.48	4.855	I	O					2.38
43.667	0.00	2.48	4.838	I	O					2.38
43.750	0.00	2.48	4.821	I	O					2.37
43.833	0.00	2.48	4.804	I	O					2.37
43.917	0.00	2.47	4.787	I	O					2.36
44.000	0.00	2.47	4.770	I	O					2.35
44.083	0.00	2.47	4.753	I	O					2.35
44.167	0.00	2.47	4.736	I	O					2.34
44.250	0.00	2.46	4.719	I	O					2.33
44.333	0.00	2.46	4.702	I	O					2.33
44.417	0.00	2.46	4.685	I	O					2.32
44.500	0.00	2.46	4.668	I	O					2.32
44.583	0.00	2.45	4.651	I	O					2.31
44.667	0.00	2.45	4.634	I	O					2.30
44.750	0.00	2.45	4.617	I	O					2.30
44.833	0.00	2.45	4.600	I	O					2.29
44.917	0.00	2.45	4.583	I	O					2.28
45.000	0.00	2.44	4.567	I	O					2.28
45.083	0.00	2.44	4.550	I	O					2.27
45.167	0.00	2.44	4.533	I	O					2.27
45.250	0.00	2.44	4.516	I	O					2.26
45.333	0.00	2.43	4.499	I	O					2.25
45.417	0.00	2.43	4.483	I	O					2.25
45.500	0.00	2.43	4.466	I	O					2.24
45.583	0.00	2.43	4.449	I	O					2.24
45.667	0.00	2.42	4.433	I	O					2.23
45.750	0.00	2.42	4.416	I	O					2.22
45.833	0.00	2.42	4.399	I	O					2.22
45.917	0.00	2.42	4.382	I	O					2.21
46.000	0.00	2.42	4.366	I	O					2.21
46.083	0.00	2.41	4.349	I	O					2.20
46.167	0.00	2.41	4.333	I	O					2.19
46.250	0.00	2.41	4.316	I	O					2.19
46.333	0.00	2.41	4.299	I	O					2.18
46.417	0.00	2.40	4.283	I	O					2.17
46.500	0.00	2.40	4.266	I	O					2.17
46.583	0.00	2.40	4.250	I	O					2.16

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	2.40	4.233	I	O					2.16
46.750	0.00	2.40	4.217	I	O					2.15
46.833	0.00	2.39	4.200	I	O					2.14
46.917	0.00	2.39	4.184	I	O					2.14
47.000	0.00	2.39	4.167	I	O					2.13
47.083	0.00	2.39	4.151	I	O					2.13
47.167	0.00	2.38	4.134	I	O					2.12
47.250	0.00	2.38	4.118	I	O					2.11
47.333	0.00	2.38	4.102	I	O					2.11
47.417	0.00	2.38	4.085	I	O					2.10
47.500	0.00	2.38	4.069	I	O					2.10
47.583	0.00	2.37	4.052	I	O					2.09
47.667	0.00	2.37	4.036	I	O					2.08
47.750	0.00	2.37	4.020	I	O					2.08
47.833	0.00	2.37	4.004	I	O					2.07
47.917	0.00	2.36	3.987	I	O					2.07
48.000	0.00	2.36	3.971	I	O					2.06
48.083	0.00	2.36	3.955	I	O					2.05
48.167	0.00	2.36	3.938	I	O					2.05
48.250	0.00	2.36	3.922	I	O					2.04
48.333	0.00	2.35	3.906	I	O					2.04
48.417	0.00	2.35	3.890	I	O					2.03
48.500	0.00	2.35	3.874	I	O					2.02
48.583	0.00	2.35	3.857	I	O					2.02
48.667	0.00	2.34	3.841	I	O					2.01
48.750	0.00	2.34	3.825	I	O					2.01
48.833	0.00	2.34	3.809	I	O					2.00
48.917	0.00	2.34	3.793	I	O					1.99
49.000	0.00	2.33	3.777	I	O					1.99
49.083	0.00	2.33	3.761	I	O					1.98
49.167	0.00	2.33	3.745	I	O					1.97
49.250	0.00	2.32	3.729	I	O					1.96
49.333	0.00	2.32	3.713	I	O					1.96
49.417	0.00	2.32	3.697	I	O					1.95
49.500	0.00	2.31	3.681	I	O					1.94
49.583	0.00	2.31	3.665	I	O					1.93
49.667	0.00	2.31	3.649	I	O					1.93
49.750	0.00	2.30	3.633	I	O					1.92
49.833	0.00	2.30	3.617	I	O					1.91
49.917	0.00	2.30	3.601	I	O					1.90
50.000	0.00	2.30	3.586	I	O					1.90
50.083	0.00	2.29	3.570	I	O					1.89
50.167	0.00	2.29	3.554	I	O					1.88
50.250	0.00	2.29	3.538	I	O					1.87
50.333	0.00	2.28	3.522	I	O					1.87
50.417	0.00	2.28	3.507	I	O					1.86
50.500	0.00	2.28	3.491	I	O					1.85
50.583	0.00	2.27	3.475	I	O					1.84
50.667	0.00	2.27	3.460	I	O					1.84
50.750	0.00	2.27	3.444	I	O					1.83
50.833	0.00	2.26	3.429	I	O					1.82
50.917	0.00	2.26	3.413	I	O					1.81
51.000	0.00	2.26	3.397	I	O					1.81
51.083	0.00	2.25	3.382	I	O					1.80
51.167	0.00	2.25	3.366	I	O					1.79
51.250	0.00	2.25	3.351	I	O					1.78
51.333	0.00	2.24	3.335	I	O					1.78
51.417	0.00	2.24	3.320	I	O					1.77
51.500	0.00	2.24	3.305	I	O					1.76
51.583	0.00	2.23	3.289	I	O					1.76
51.667	0.00	2.23	3.274	I	O					1.75
51.750	0.00	2.23	3.258	I	O					1.74
51.833	0.00	2.23	3.243	I	O					1.73

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

51.917	0.00	2.22	3.228	I O					1.73
52.000	0.00	2.22	3.212	I O					1.72
52.083	0.00	2.22	3.197	I O					1.71
52.167	0.00	2.21	3.182	I O					1.70
52.250	0.00	2.21	3.167	I O					1.70
52.333	0.00	2.21	3.152	I O					1.69
52.417	0.00	2.20	3.136	I O					1.68
52.500	0.00	2.20	3.121	I O					1.68
52.583	0.00	2.20	3.106	I O					1.67
52.667	0.00	2.19	3.091	I O					1.66
52.750	0.00	2.19	3.076	I O					1.65
52.833	0.00	2.19	3.061	I O					1.65
52.917	0.00	2.19	3.046	I O					1.64
53.000	0.00	2.18	3.031	I O					1.63
53.083	0.00	2.18	3.016	I O					1.63
53.167	0.00	2.18	3.001	I O					1.62
53.250	0.00	2.17	2.986	I O					1.61
53.333	0.00	2.17	2.971	I O					1.60
53.417	0.00	2.17	2.956	I O					1.60
53.500	0.00	2.16	2.941	I O					1.59
53.583	0.00	2.16	2.926	I O					1.58
53.667	0.00	2.16	2.911	I O					1.58
53.750	0.00	2.15	2.896	I O					1.57
53.833	0.00	2.15	2.881	I O					1.56
53.917	0.00	2.15	2.867	I O					1.56
54.000	0.00	2.15	2.852	I O					1.55
54.083	0.00	2.14	2.837	I O					1.54
54.167	0.00	2.14	2.822	I O					1.53
54.250	0.00	2.14	2.808	I O					1.53
54.333	0.00	2.13	2.793	I O					1.52
54.417	0.00	2.13	2.778	I O					1.51
54.500	0.00	2.13	2.763	I O					1.51
54.583	0.00	2.12	2.749	I O					1.50
54.667	0.00	2.12	2.734	I O					1.49
54.750	0.00	2.12	2.720	I O					1.49
54.833	0.00	2.12	2.705	I O					1.48
54.917	0.00	2.11	2.690	I O					1.47
55.000	0.00	2.11	2.676	I O					1.47
55.083	0.00	2.11	2.661	I O					1.46
55.167	0.00	2.10	2.647	I O					1.45
55.250	0.00	2.10	2.632	I O					1.44
55.333	0.00	2.10	2.618	I O					1.44
55.417	0.00	2.10	2.603	I O					1.43
55.500	0.00	2.09	2.589	I O					1.42
55.583	0.00	2.09	2.575	I O					1.42
55.667	0.00	2.09	2.560	I O					1.41
55.750	0.00	2.08	2.546	I O					1.40
55.833	0.00	2.08	2.532	I O					1.40
55.917	0.00	2.08	2.517	I O					1.39
56.000	0.00	2.07	2.503	I O					1.38
56.083	0.00	2.07	2.489	I O					1.38
56.167	0.00	2.07	2.474	I O					1.37
56.250	0.00	2.07	2.460	I O					1.36
56.333	0.00	2.06	2.446	I O					1.36
56.417	0.00	2.06	2.432	I O					1.35
56.500	0.00	2.06	2.418	I O					1.34
56.583	0.00	2.05	2.403	I O					1.34
56.667	0.00	2.05	2.389	I O					1.33
56.750	0.00	2.05	2.375	I O					1.32
56.833	0.00	2.05	2.361	I O					1.32
56.917	0.00	2.04	2.347	I O					1.31
57.000	0.00	2.04	2.333	I O					1.30
57.083	0.00	2.04	2.319	I O					1.30

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	2.03	2.305	I O					1.29
57.250	0.00	2.03	2.291	I O					1.28
57.333	0.00	2.03	2.277	I O					1.28
57.417	0.00	2.03	2.263	I O					1.27
57.500	0.00	2.02	2.249	I O					1.26
57.583	0.00	2.02	2.235	I O					1.26
57.667	0.00	2.02	2.221	I O					1.25
57.750	0.00	2.01	2.207	I O					1.24
57.833	0.00	2.01	2.193	I O					1.24
57.917	0.00	2.01	2.180	I O					1.23
58.000	0.00	2.01	2.166	I O					1.22
58.083	0.00	2.00	2.152	I O					1.22
58.167	0.00	2.00	2.138	I O					1.21
58.250	0.00	2.00	2.124	I O					1.20
58.333	0.00	1.99	2.111	I O					1.20
58.417	0.00	1.99	2.097	I O					1.19
58.500	0.00	1.99	2.083	I O					1.18
58.583	0.00	1.99	2.069	I O					1.18
58.667	0.00	1.98	2.056	I O					1.17
58.750	0.00	1.98	2.042	I O					1.17
58.833	0.00	1.98	2.029	I O					1.16
58.917	0.00	1.98	2.015	I O					1.15
59.000	0.00	1.97	2.001	I O					1.15
59.083	0.00	1.97	1.988	I O					1.14
59.167	0.00	1.97	1.974	I O					1.13
59.250	0.00	1.96	1.961	I O					1.13
59.333	0.00	1.96	1.947	I O					1.12
59.417	0.00	1.96	1.934	I O					1.11
59.500	0.00	1.96	1.920	I O					1.11
59.583	0.00	1.95	1.907	I O					1.10
59.667	0.00	1.95	1.893	I O					1.09
59.750	0.00	1.95	1.880	I O					1.09
59.833	0.00	1.95	1.866	I O					1.08
59.917	0.00	1.94	1.853	I O					1.08
60.000	0.00	1.94	1.840	I O					1.07
60.083	0.00	1.94	1.826	I O					1.06
60.167	0.00	1.93	1.813	I O					1.06
60.250	0.00	1.93	1.800	I O					1.05
60.333	0.00	1.93	1.786	I O					1.04
60.417	0.00	1.93	1.773	I O					1.04
60.500	0.00	1.92	1.760	I O					1.03
60.583	0.00	1.92	1.747	I O					1.03
60.667	0.00	1.92	1.733	I O					1.02
60.750	0.00	1.92	1.720	I O					1.01
60.833	0.00	1.91	1.707	I O					1.01
60.917	0.00	1.91	1.694	I O					1.00
61.000	0.00	1.90	1.681	I O					0.99
61.083	0.00	1.88	1.668	I O					0.99
61.167	0.00	1.87	1.655	I O					0.98
61.250	0.00	1.85	1.642	I O					0.97
61.333	0.00	1.84	1.629	I O					0.96
61.417	0.00	1.82	1.617	I O					0.95
61.500	0.00	1.81	1.604	I O					0.95
61.583	0.00	1.80	1.592	I O					0.94
61.667	0.00	1.78	1.579	I O					0.93
61.750	0.00	1.77	1.567	I O					0.93
61.833	0.00	1.75	1.555	I O					0.92
61.917	0.00	1.74	1.543	I O					0.91
62.000	0.00	1.73	1.531	I O					0.90
62.083	0.00	1.71	1.519	I O					0.90
62.167	0.00	1.70	1.507	I O					0.89
62.250	0.00	1.69	1.496	I O					0.88
62.333	0.00	1.67	1.484	I O					0.88

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	1.66	1.473	I O					0.87
62.500	0.00	1.65	1.461	I O					0.86
62.583	0.00	1.64	1.450	I O					0.86
62.667	0.00	1.62	1.439	I O					0.85
62.750	0.00	1.61	1.428	I O					0.84
62.833	0.00	1.60	1.417	I O					0.84
62.917	0.00	1.59	1.406	I O					0.83
63.000	0.00	1.57	1.395	I O					0.82
63.083	0.00	1.56	1.384	I O					0.82
63.167	0.00	1.55	1.373	I O					0.81
63.250	0.00	1.54	1.363	I O					0.80
63.333	0.00	1.53	1.352	I O					0.80
63.417	0.00	1.51	1.342	I O					0.79
63.500	0.00	1.50	1.331	IO					0.79
63.583	0.00	1.49	1.321	IO					0.78
63.667	0.00	1.48	1.311	IO					0.77
63.750	0.00	1.47	1.301	IO					0.77
63.833	0.00	1.46	1.291	IO					0.76
63.917	0.00	1.44	1.281	IO					0.76
64.000	0.00	1.43	1.271	IO					0.75
64.083	0.00	1.42	1.261	IO					0.74
64.167	0.00	1.41	1.251	IO					0.74
64.250	0.00	1.40	1.241	IO					0.73
64.333	0.00	1.39	1.232	IO					0.73
64.417	0.00	1.38	1.222	IO					0.72
64.500	0.00	1.37	1.213	IO					0.72
64.583	0.00	1.36	1.203	IO					0.71
64.667	0.00	1.35	1.194	IO					0.71
64.750	0.00	1.34	1.185	IO					0.70
64.833	0.00	1.33	1.176	IO					0.69
64.917	0.00	1.32	1.167	IO					0.69
65.000	0.00	1.31	1.158	IO					0.68
65.083	0.00	1.30	1.149	IO					0.68
65.167	0.00	1.29	1.140	IO					0.67
65.250	0.00	1.28	1.131	IO					0.67
65.333	0.00	1.27	1.122	IO					0.66
65.417	0.00	1.26	1.113	IO					0.66
65.500	0.00	1.25	1.105	IO					0.65
65.583	0.00	1.24	1.096	IO					0.65
65.667	0.00	1.23	1.088	IO					0.64
65.750	0.00	1.22	1.079	IO					0.64
65.833	0.00	1.21	1.071	IO					0.63
65.917	0.00	1.20	1.063	IO					0.63
66.000	0.00	1.19	1.054	IO					0.62
66.083	0.00	1.18	1.046	IO					0.62
66.167	0.00	1.17	1.038	IO					0.61
66.250	0.00	1.16	1.030	IO					0.61
66.333	0.00	1.15	1.022	IO					0.60
66.417	0.00	1.14	1.014	IO					0.60
66.500	0.00	1.14	1.006	IO					0.59
66.583	0.00	1.13	0.999	IO					0.59
66.667	0.00	1.12	0.991	IO					0.59
66.750	0.00	1.11	0.983	IO					0.58
66.833	0.00	1.10	0.976	IO					0.58
66.917	0.00	1.09	0.968	IO					0.57
67.000	0.00	1.08	0.961	IO					0.57
67.083	0.00	1.08	0.953	IO					0.56
67.167	0.00	1.07	0.946	IO					0.56
67.250	0.00	1.06	0.938	IO					0.55
67.333	0.00	1.05	0.931	IO					0.55
67.417	0.00	1.04	0.924	IO					0.55
67.500	0.00	1.03	0.917	IO					0.54
67.583	0.00	1.03	0.910	IO					0.54

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	1.02	0.903	IO					0.53
67.750	0.00	1.01	0.896	IO					0.53
67.833	0.00	1.00	0.889	IO					0.52
67.917	0.00	0.99	0.882	IO					0.52
68.000	0.00	0.99	0.875	IO					0.52
68.083	0.00	0.98	0.868	IO					0.51
68.167	0.00	0.97	0.862	IO					0.51
68.250	0.00	0.96	0.855	IO					0.50
68.333	0.00	0.96	0.848	IO					0.50
68.417	0.00	0.95	0.842	IO					0.50
68.500	0.00	0.94	0.835	IO					0.49
68.583	0.00	0.93	0.829	IO					0.49
68.667	0.00	0.93	0.822	IO					0.49
68.750	0.00	0.92	0.816	IO					0.48
68.833	0.00	0.91	0.810	IO					0.48
68.917	0.00	0.91	0.803	IO					0.47
69.000	0.00	0.90	0.797	IO					0.47
69.083	0.00	0.89	0.791	IO					0.47
69.167	0.00	0.89	0.785	IO					0.46
69.250	0.00	0.88	0.779	IO					0.46
69.333	0.00	0.87	0.773	IO					0.46
69.417	0.00	0.87	0.767	IO					0.45
69.500	0.00	0.86	0.761	IO					0.45
69.583	0.00	0.85	0.755	IO					0.45
69.667	0.00	0.85	0.749	IO					0.44
69.750	0.00	0.84	0.743	IO					0.44
69.833	0.00	0.83	0.738	IO					0.44
69.917	0.00	0.83	0.732	IO					0.43
70.000	0.00	0.82	0.726	IO					0.43
70.083	0.00	0.81	0.721	IO					0.43
70.167	0.00	0.81	0.715	IO					0.42
70.250	0.00	0.80	0.709	IO					0.42
70.333	0.00	0.79	0.704	IO					0.42
70.417	0.00	0.79	0.699	IO					0.41
70.500	0.00	0.78	0.693	IO					0.41
70.583	0.00	0.78	0.688	IO					0.41
70.667	0.00	0.77	0.682	IO					0.40
70.750	0.00	0.76	0.677	IO					0.40
70.833	0.00	0.76	0.672	IO					0.40
70.917	0.00	0.75	0.667	IO					0.39
71.000	0.00	0.75	0.662	O					0.39
71.083	0.00	0.74	0.656	O					0.39
71.167	0.00	0.73	0.651	O					0.38
71.250	0.00	0.73	0.646	O					0.38
71.333	0.00	0.72	0.641	O					0.38
71.417	0.00	0.72	0.636	O					0.38
71.500	0.00	0.71	0.631	O					0.37
71.583	0.00	0.71	0.627	O					0.37
71.667	0.00	0.70	0.622	O					0.37
71.750	0.00	0.70	0.617	O					0.36
71.833	0.00	0.69	0.612	O					0.36
71.917	0.00	0.69	0.607	O					0.36
72.000	0.00	0.68	0.603	O					0.36
72.083	0.00	0.67	0.598	O					0.35
72.167	0.00	0.67	0.593	O					0.35
72.250	0.00	0.66	0.589	O					0.35
72.333	0.00	0.66	0.584	O					0.35
72.417	0.00	0.65	0.580	O					0.34
72.500	0.00	0.65	0.575	O					0.34
72.583	0.00	0.64	0.571	O					0.34
72.667	0.00	0.64	0.566	O					0.33
72.750	0.00	0.63	0.562	O					0.33
72.833	0.00	0.63	0.558	O					0.33



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.62	0.553	0					0.33
73.000	0.00	0.62	0.549	0					0.32
73.083	0.00	0.61	0.545	0					0.32
73.167	0.00	0.61	0.541	0					0.32
73.250	0.00	0.61	0.536	0					0.32
73.333	0.00	0.60	0.532	0					0.31
73.417	0.00	0.60	0.528	0					0.31
73.500	0.00	0.59	0.524	0					0.31
73.583	0.00	0.59	0.520	0					0.31
73.667	0.00	0.58	0.516	0					0.30
73.750	0.00	0.58	0.512	0					0.30
73.833	0.00	0.57	0.508	0					0.30
73.917	0.00	0.57	0.504	0					0.30
74.000	0.00	0.56	0.500	0					0.30
74.083	0.00	0.56	0.496	0					0.29
74.167	0.00	0.56	0.492	0					0.29
74.250	0.00	0.55	0.489	0					0.29
74.333	0.00	0.55	0.485	0					0.29
74.417	0.00	0.54	0.481	0					0.28
74.500	0.00	0.54	0.477	0					0.28
74.583	0.00	0.53	0.474	0					0.28
74.667	0.00	0.53	0.470	0					0.28
74.750	0.00	0.53	0.466	0					0.28
74.833	0.00	0.52	0.463	0					0.27
74.917	0.00	0.52	0.459	0					0.27
75.000	0.00	0.51	0.456	0					0.27
75.083	0.00	0.51	0.452	0					0.27
75.167	0.00	0.51	0.449	0					0.26
75.250	0.00	0.50	0.445	0					0.26
75.333	0.00	0.50	0.442	0					0.26
75.417	0.00	0.49	0.438	0					0.26
75.500	0.00	0.49	0.435	0					0.26
75.583	0.00	0.49	0.431	0					0.25
75.667	0.00	0.48	0.428	0					0.25
75.750	0.00	0.48	0.425	0					0.25
75.833	0.00	0.48	0.422	0					0.25
75.917	0.00	0.47	0.418	0					0.25
76.000	0.00	0.47	0.415	0					0.25
76.083	0.00	0.46	0.412	0					0.24
76.167	0.00	0.46	0.409	0					0.24
76.250	0.00	0.46	0.405	0					0.24
76.333	0.00	0.45	0.402	0					0.24
76.417	0.00	0.45	0.399	0					0.24
76.500	0.00	0.45	0.396	0					0.23
76.583	0.00	0.44	0.393	0					0.23
76.667	0.00	0.44	0.390	0					0.23
76.750	0.00	0.44	0.387	0					0.23
76.833	0.00	0.43	0.384	0					0.23
76.917	0.00	0.43	0.381	0					0.23
77.000	0.00	0.43	0.378	0					0.22
77.083	0.00	0.42	0.375	0					0.22
77.167	0.00	0.42	0.372	0					0.22
77.250	0.00	0.42	0.369	0					0.22
77.333	0.00	0.41	0.367	0					0.22
77.417	0.00	0.41	0.364	0					0.21
77.500	0.00	0.41	0.361	0					0.21
77.583	0.00	0.40	0.358	0					0.21
77.667	0.00	0.40	0.355	0					0.21
77.750	0.00	0.40	0.353	0					0.21
77.833	0.00	0.39	0.350	0					0.21
77.917	0.00	0.39	0.347	0					0.21
78.000	0.00	0.39	0.344	0					0.20
78.083	0.00	0.39	0.342	0					0.20

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.38	0.339	0					0.20
78.250	0.00	0.38	0.337	0					0.20
78.333	0.00	0.38	0.334	0					0.20
78.417	0.00	0.37	0.331	0					0.20
78.500	0.00	0.37	0.329	0					0.19
78.583	0.00	0.37	0.326	0					0.19
78.667	0.00	0.37	0.324	0					0.19
78.750	0.00	0.36	0.321	0					0.19
78.833	0.00	0.36	0.319	0					0.19
78.917	0.00	0.36	0.316	0					0.19
79.000	0.00	0.35	0.314	0					0.19
79.083	0.00	0.35	0.311	0					0.18
79.167	0.00	0.35	0.309	0					0.18
79.250	0.00	0.35	0.307	0					0.18
79.333	0.00	0.34	0.304	0					0.18
79.417	0.00	0.34	0.302	0					0.18
79.500	0.00	0.34	0.299	0					0.18
79.583	0.00	0.34	0.297	0					0.18
79.667	0.00	0.33	0.295	0					0.17
79.750	0.00	0.33	0.293	0					0.17
79.833	0.00	0.33	0.290	0					0.17
79.917	0.00	0.32	0.288	0					0.17
80.000	0.00	0.32	0.286	0					0.17
80.083	0.00	0.32	0.284	0					0.17
80.167	0.00	0.32	0.281	0					0.17
80.250	0.00	0.32	0.279	0					0.16
80.333	0.00	0.31	0.277	0					0.16
80.417	0.00	0.31	0.275	0					0.16
80.500	0.00	0.31	0.273	0					0.16
80.583	0.00	0.31	0.271	0					0.16
80.667	0.00	0.30	0.269	0					0.16
80.750	0.00	0.30	0.267	0					0.16
80.833	0.00	0.30	0.264	0					0.16
80.917	0.00	0.30	0.262	0					0.16
81.000	0.00	0.29	0.260	0					0.15
81.083	0.00	0.29	0.258	0					0.15
81.167	0.00	0.29	0.256	0					0.15
81.250	0.00	0.29	0.254	0					0.15
81.333	0.00	0.28	0.252	0					0.15
81.417	0.00	0.28	0.250	0					0.15
81.500	0.00	0.28	0.249	0					0.15
81.583	0.00	0.28	0.247	0					0.15
81.667	0.00	0.28	0.245	0					0.14
81.750	0.00	0.27	0.243	0					0.14
81.833	0.00	0.27	0.241	0					0.14
81.917	0.00	0.27	0.239	0					0.14
82.000	0.00	0.27	0.237	0					0.14
82.083	0.00	0.27	0.235	0					0.14
82.167	0.00	0.26	0.234	0					0.14
82.250	0.00	0.26	0.232	0					0.14
82.333	0.00	0.26	0.230	0					0.14
82.417	0.00	0.26	0.228	0					0.13
82.500	0.00	0.26	0.226	0					0.13
82.583	0.00	0.25	0.225	0					0.13
82.667	0.00	0.25	0.223	0					0.13
82.750	0.00	0.25	0.221	0					0.13
82.833	0.00	0.25	0.219	0					0.13
82.917	0.00	0.25	0.218	0					0.13
83.000	0.00	0.24	0.216	0					0.13
83.083	0.00	0.24	0.214	0					0.13
83.167	0.00	0.24	0.213	0					0.13
83.250	0.00	0.24	0.211	0					0.12
83.333	0.00	0.24	0.209	0					0.12

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.23	0.208	o					0.12
83.500	0.00	0.23	0.206	o					0.12
83.583	0.00	0.23	0.205	o					0.12
83.667	0.00	0.23	0.203	o					0.12
83.750	0.00	0.23	0.202	o					0.12
83.833	0.00	0.23	0.200	o					0.12
83.917	0.00	0.22	0.198	o					0.12
84.000	0.00	0.22	0.197	o					0.12
84.083	0.00	0.22	0.195	o					0.12
84.167	0.00	0.22	0.194	o					0.11
84.250	0.00	0.22	0.192	o					0.11
84.333	0.00	0.22	0.191	o					0.11
84.417	0.00	0.21	0.189	o					0.11
84.500	0.00	0.21	0.188	o					0.11
84.583	0.00	0.21	0.186	o					0.11
84.667	0.00	0.21	0.185	o					0.11
84.750	0.00	0.21	0.184	o					0.11
84.833	0.00	0.21	0.182	o					0.11
84.917	0.00	0.20	0.181	o					0.11
85.000	0.00	0.20	0.179	o					0.11
85.083	0.00	0.20	0.178	o					0.11
85.167	0.00	0.20	0.177	o					0.10
85.250	0.00	0.20	0.175	o					0.10
85.333	0.00	0.20	0.174	o					0.10
85.417	0.00	0.19	0.173	o					0.10
85.500	0.00	0.19	0.171	o					0.10
85.583	0.00	0.19	0.170	o					0.10
85.667	0.00	0.19	0.169	o					0.10
85.750	0.00	0.19	0.167	o					0.10
85.833	0.00	0.19	0.166	o					0.10
85.917	0.00	0.19	0.165	o					0.10
86.000	0.00	0.18	0.163	o					0.10
86.083	0.00	0.18	0.162	o					0.10
86.167	0.00	0.18	0.161	o					0.10
86.250	0.00	0.18	0.160	o					0.09
86.333	0.00	0.18	0.158	o					0.09
86.417	0.00	0.18	0.157	o					0.09
86.500	0.00	0.18	0.156	o					0.09
86.583	0.00	0.17	0.155	o					0.09
86.667	0.00	0.17	0.154	o					0.09
86.750	0.00	0.17	0.152	o					0.09
86.833	0.00	0.17	0.151	o					0.09
86.917	0.00	0.17	0.150	o					0.09
87.000	0.00	0.17	0.149	o					0.09
87.083	0.00	0.17	0.148	o					0.09
87.167	0.00	0.17	0.147	o					0.09
87.250	0.00	0.16	0.145	o					0.09
87.333	0.00	0.16	0.144	o					0.09
87.417	0.00	0.16	0.143	o					0.08
87.500	0.00	0.16	0.142	o					0.08
87.583	0.00	0.16	0.141	o					0.08
87.667	0.00	0.16	0.140	o					0.08
87.750	0.00	0.16	0.139	o					0.08
87.833	0.00	0.16	0.138	o					0.08
87.917	0.00	0.15	0.137	o					0.08
88.000	0.00	0.15	0.136	o					0.08
88.083	0.00	0.15	0.135	o					0.08
88.167	0.00	0.15	0.133	o					0.08
88.250	0.00	0.15	0.132	o					0.08
88.333	0.00	0.15	0.131	o					0.08
88.417	0.00	0.15	0.130	o					0.08
88.500	0.00	0.15	0.129	o					0.08
88.583	0.00	0.14	0.128	o					0.08

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.14	0.127	o					0.08
88.750	0.00	0.14	0.126	o					0.07
88.833	0.00	0.14	0.125	o					0.07
88.917	0.00	0.14	0.124	o					0.07
89.000	0.00	0.14	0.124	o					0.07
89.083	0.00	0.14	0.123	o					0.07
89.167	0.00	0.14	0.122	o					0.07
89.250	0.00	0.14	0.121	o					0.07
89.333	0.00	0.14	0.120	o					0.07
89.417	0.00	0.13	0.119	o					0.07
89.500	0.00	0.13	0.118	o					0.07
89.583	0.00	0.13	0.117	o					0.07
89.667	0.00	0.13	0.116	o					0.07
89.750	0.00	0.13	0.115	o					0.07
89.833	0.00	0.13	0.114	o					0.07
89.917	0.00	0.13	0.113	o					0.07
90.000	0.00	0.13	0.113	o					0.07
90.083	0.00	0.13	0.112	o					0.07
90.167	0.00	0.12	0.111	o					0.07
90.250	0.00	0.12	0.110	o					0.06
90.333	0.00	0.12	0.109	o					0.06
90.417	0.00	0.12	0.108	o					0.06
90.500	0.00	0.12	0.107	o					0.06
90.583	0.00	0.12	0.107	o					0.06
90.667	0.00	0.12	0.106	o					0.06
90.750	0.00	0.12	0.105	o					0.06
90.833	0.00	0.12	0.104	o					0.06
90.917	0.00	0.12	0.103	o					0.06
91.000	0.00	0.12	0.102	o					0.06
91.083	0.00	0.11	0.102	o					0.06
91.167	0.00	0.11	0.101	o					0.06
91.250	0.00	0.11	0.100	o					0.06
91.333	0.00	0.11	0.099	o					0.06
91.417	0.00	0.11	0.099	o					0.06
91.500	0.00	0.11	0.098	o					0.06
91.583	0.00	0.11	0.097	o					0.06
91.667	0.00	0.11	0.096	o					0.06
91.750	0.00	0.11	0.096	o					0.06
91.833	0.00	0.11	0.095	o					0.06
91.917	0.00	0.11	0.094	o					0.06
92.000	0.00	0.11	0.093	o					0.06
92.083	0.00	0.10	0.093	o					0.05
92.167	0.00	0.10	0.092	o					0.05
92.250	0.00	0.10	0.091	o					0.05
92.333	0.00	0.10	0.091	o					0.05
92.417	0.00	0.10	0.090	o					0.05
92.500	0.00	0.10	0.089	o					0.05
92.583	0.00	0.10	0.088	o					0.05
92.667	0.00	0.10	0.088	o					0.05
92.750	0.00	0.10	0.087	o					0.05
92.833	0.00	0.10	0.086	o					0.05
92.917	0.00	0.10	0.086	o					0.05
93.000	0.00	0.10	0.085	o					0.05
93.083	0.00	0.10	0.084	o					0.05
93.167	0.00	0.09	0.084	o					0.05
93.250	0.00	0.09	0.083	o					0.05
93.333	0.00	0.09	0.082	o					0.05
93.417	0.00	0.09	0.082	o					0.05
93.500	0.00	0.09	0.081	o					0.05
93.583	0.00	0.09	0.081	o					0.05
93.667	0.00	0.09	0.080	o					0.05
93.750	0.00	0.09	0.079	o					0.05
93.833	0.00	0.09	0.079	o					0.05

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.09	0.078	o					0.05
94.000	0.00	0.09	0.077	o					0.05
94.083	0.00	0.09	0.077	o					0.05
94.167	0.00	0.09	0.076	o					0.05
94.250	0.00	0.09	0.076	o					0.04
94.333	0.00	0.08	0.075	o					0.04
94.417	0.00	0.08	0.075	o					0.04
94.500	0.00	0.08	0.074	o					0.04
94.583	0.00	0.08	0.073	o					0.04
94.667	0.00	0.08	0.073	o					0.04
94.750	0.00	0.08	0.072	o					0.04
94.833	0.00	0.08	0.072	o					0.04
94.917	0.00	0.08	0.071	o					0.04
95.000	0.00	0.08	0.071	o					0.04
95.083	0.00	0.08	0.070	o					0.04
95.167	0.00	0.08	0.070	o					0.04
95.250	0.00	0.08	0.069	o					0.04
95.333	0.00	0.08	0.068	o					0.04
95.417	0.00	0.08	0.068	o					0.04
95.500	0.00	0.08	0.067	o					0.04
95.583	0.00	0.08	0.067	o					0.04
95.667	0.00	0.07	0.066	o					0.04
95.750	0.00	0.07	0.066	o					0.04
95.833	0.00	0.07	0.065	o					0.04
95.917	0.00	0.07	0.065	o					0.04
96.000	0.00	0.07	0.064	o					0.04
96.083	0.00	0.07	0.064	o					0.04
96.167	0.00	0.07	0.063	o					0.04
96.250	0.00	0.07	0.063	o					0.04
96.333	0.00	0.07	0.062	o					0.04
96.417	0.00	0.07	0.062	o					0.04
96.500	0.00	0.07	0.061	o					0.04
96.583	0.00	0.07	0.061	o					0.04
96.667	0.00	0.07	0.060	o					0.04
96.750	0.00	0.07	0.060	o					0.04
96.833	0.00	0.07	0.059	o					0.04
96.917	0.00	0.07	0.059	o					0.03
97.000	0.00	0.07	0.059	o					0.03
97.083	0.00	0.07	0.058	o					0.03
97.167	0.00	0.07	0.058	o					0.03
97.250	0.00	0.06	0.057	o					0.03
97.333	0.00	0.06	0.057	o					0.03
97.417	0.00	0.06	0.056	o					0.03
97.500	0.00	0.06	0.056	o					0.03
97.583	0.00	0.06	0.055	o					0.03
97.667	0.00	0.06	0.055	o					0.03
97.750	0.00	0.06	0.055	o					0.03
97.833	0.00	0.06	0.054	o					0.03
97.917	0.00	0.06	0.054	o					0.03
98.000	0.00	0.06	0.053	o					0.03
98.083	0.00	0.06	0.053	o					0.03
98.167	0.00	0.06	0.053	o					0.03
98.250	0.00	0.06	0.052	o					0.03
98.333	0.00	0.06	0.052	o					0.03
98.417	0.00	0.06	0.051	o					0.03
98.500	0.00	0.06	0.051	o					0.03
98.583	0.00	0.06	0.051	o					0.03
98.667	0.00	0.06	0.050	o					0.03
98.750	0.00	0.06	0.050	o					0.03
98.833	0.00	0.06	0.049	o					0.03
98.917	0.00	0.06	0.049	o					0.03
99.000	0.00	0.05	0.049	o					0.03
99.083	0.00	0.05	0.048	o					0.03

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

99.167	0.00	0.05	0.048	o					0.03
99.250	0.00	0.05	0.047	o					0.03
99.333	0.00	0.05	0.047	o					0.03
99.417	0.00	0.05	0.047	o					0.03
99.500	0.00	0.05	0.046	o					0.03
99.583	0.00	0.05	0.046	o					0.03
99.667	0.00	0.05	0.046	o					0.03
99.750	0.00	0.05	0.045	o					0.03
99.833	0.00	0.05	0.045	o					0.03
99.917	0.00	0.05	0.045	o					0.03
100.000	0.00	0.05	0.044	o					0.03
100.083	0.00	0.05	0.044	o					0.03
100.167	0.00	0.05	0.044	o					0.03
100.250	0.00	0.05	0.043	o					0.03
100.333	0.00	0.05	0.043	o					0.03
100.417	0.00	0.05	0.043	o					0.03
100.500	0.00	0.05	0.042	o					0.02
100.583	0.00	0.05	0.042	o					0.02
100.667	0.00	0.05	0.042	o					0.02
100.750	0.00	0.05	0.041	o					0.02
100.833	0.00	0.05	0.041	o					0.02
100.917	0.00	0.05	0.041	o					0.02
101.000	0.00	0.05	0.040	o					0.02
101.083	0.00	0.05	0.040	o					0.02
101.167	0.00	0.04	0.040	o					0.02
101.250	0.00	0.04	0.039	o					0.02
101.333	0.00	0.04	0.039	o					0.02
101.417	0.00	0.04	0.039	o					0.02
101.500	0.00	0.04	0.039	o					0.02
101.583	0.00	0.04	0.038	o					0.02
101.667	0.00	0.04	0.038	o					0.02
101.750	0.00	0.04	0.038	o					0.02
101.833	0.00	0.04	0.037	o					0.02
101.917	0.00	0.04	0.037	o					0.02
102.000	0.00	0.04	0.037	o					0.02
102.083	0.00	0.04	0.036	o					0.02
102.167	0.00	0.04	0.036	o					0.02
102.250	0.00	0.04	0.036	o					0.02
102.333	0.00	0.04	0.036	o					0.02
102.417	0.00	0.04	0.035	o					0.02
102.500	0.00	0.04	0.035	o					0.02
102.583	0.00	0.04	0.035	o					0.02
102.667	0.00	0.04	0.035	o					0.02
102.750	0.00	0.04	0.034	o					0.02
102.833	0.00	0.04	0.034	o					0.02
102.917	0.00	0.04	0.034	o					0.02
103.000	0.00	0.04	0.033	o					0.02
103.083	0.00	0.04	0.033	o					0.02
103.167	0.00	0.04	0.033	o					0.02
103.250	0.00	0.04	0.033	o					0.02
103.333	0.00	0.04	0.032	o					0.02
103.417	0.00	0.04	0.032	o					0.02
103.500	0.00	0.04	0.032	o					0.02
103.583	0.00	0.04	0.032	o					0.02
103.667	0.00	0.04	0.031	o					0.02
103.750	0.00	0.04	0.031	o					0.02
103.833	0.00	0.03	0.031	o					0.02
103.917	0.00	0.03	0.031	o					0.02
104.000	0.00	0.03	0.031	o					0.02
104.083	0.00	0.03	0.030	o					0.02
104.167	0.00	0.03	0.030	o					0.02
104.250	0.00	0.03	0.030	o					0.02
104.333	0.00	0.03	0.030	o					0.02

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.03	0.029	o					0.02
104.500	0.00	0.03	0.029	o					0.02
104.583	0.00	0.03	0.029	o					0.02
104.667	0.00	0.03	0.029	o					0.02
104.750	0.00	0.03	0.028	o					0.02
104.833	0.00	0.03	0.028	o					0.02
104.917	0.00	0.03	0.028	o					0.02
105.000	0.00	0.03	0.028	o					0.02
105.083	0.00	0.03	0.028	o					0.02
105.167	0.00	0.03	0.027	o					0.02
105.250	0.00	0.03	0.027	o					0.02
105.333	0.00	0.03	0.027	o					0.02
105.417	0.00	0.03	0.027	o					0.02
105.500	0.00	0.03	0.027	o					0.02
105.583	0.00	0.03	0.026	o					0.02
105.667	0.00	0.03	0.026	o					0.02
105.750	0.00	0.03	0.026	o					0.02
105.833	0.00	0.03	0.026	o					0.02
105.917	0.00	0.03	0.026	o					0.02
106.000	0.00	0.03	0.025	o					0.01
106.083	0.00	0.03	0.025	o					0.01
106.167	0.00	0.03	0.025	o					0.01
106.250	0.00	0.03	0.025	o					0.01
106.333	0.00	0.03	0.025	o					0.01
106.417	0.00	0.03	0.024	o					0.01
106.500	0.00	0.03	0.024	o					0.01
106.583	0.00	0.03	0.024	o					0.01
106.667	0.00	0.03	0.024	o					0.01
106.750	0.00	0.03	0.024	o					0.01
106.833	0.00	0.03	0.023	o					0.01
106.917	0.00	0.03	0.023	o					0.01
107.000	0.00	0.03	0.023	o					0.01
107.083	0.00	0.03	0.023	o					0.01
107.167	0.00	0.03	0.023	o					0.01
107.250	0.00	0.03	0.023	o					0.01
107.333	0.00	0.03	0.022	o					0.01
107.417	0.00	0.03	0.022	o					0.01
107.500	0.00	0.02	0.022	o					0.01
107.583	0.00	0.02	0.022	o					0.01
107.667	0.00	0.02	0.022	o					0.01
107.750	0.00	0.02	0.022	o					0.01
107.833	0.00	0.02	0.021	o					0.01
107.917	0.00	0.02	0.021	o					0.01
108.000	0.00	0.02	0.021	o					0.01
108.083	0.00	0.02	0.021	o					0.01
108.167	0.00	0.02	0.021	o					0.01
108.250	0.00	0.02	0.021	o					0.01
108.333	0.00	0.02	0.020	o					0.01
108.417	0.00	0.02	0.020	o					0.01
108.500	0.00	0.02	0.020	o					0.01
108.583	0.00	0.02	0.020	o					0.01
108.667	0.00	0.02	0.020	o					0.01
108.750	0.00	0.02	0.020	o					0.01
108.833	0.00	0.02	0.019	o					0.01
108.917	0.00	0.02	0.019	o					0.01
109.000	0.00	0.02	0.019	o					0.01
109.083	0.00	0.02	0.019	o					0.01
109.167	0.00	0.02	0.019	o					0.01
109.250	0.00	0.02	0.019	o					0.01
109.333	0.00	0.02	0.019	o					0.01
109.417	0.00	0.02	0.018	o					0.01
109.500	0.00	0.02	0.018	o					0.01
109.583	0.00	0.02	0.018	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.02	0.018	o					0.01
109.750	0.00	0.02	0.018	o					0.01
109.833	0.00	0.02	0.018	o					0.01
109.917	0.00	0.02	0.018	o					0.01
110.000	0.00	0.02	0.017	o					0.01
110.083	0.00	0.02	0.017	o					0.01
110.167	0.00	0.02	0.017	o					0.01
110.250	0.00	0.02	0.017	o					0.01
110.333	0.00	0.02	0.017	o					0.01
110.417	0.00	0.02	0.017	o					0.01
110.500	0.00	0.02	0.017	o					0.01
110.583	0.00	0.02	0.017	o					0.01
110.667	0.00	0.02	0.016	o					0.01
110.750	0.00	0.02	0.016	o					0.01
110.833	0.00	0.02	0.016	o					0.01
110.917	0.00	0.02	0.016	o					0.01
111.000	0.00	0.02	0.016	o					0.01
111.083	0.00	0.02	0.016	o					0.01
111.167	0.00	0.02	0.016	o					0.01
111.250	0.00	0.02	0.016	o					0.01
111.333	0.00	0.02	0.015	o					0.01
111.417	0.00	0.02	0.015	o					0.01
111.500	0.00	0.02	0.015	o					0.01
111.583	0.00	0.02	0.015	o					0.01
111.667	0.00	0.02	0.015	o					0.01
111.750	0.00	0.02	0.015	o					0.01
111.833	0.00	0.02	0.015	o					0.01
111.917	0.00	0.02	0.015	o					0.01
112.000	0.00	0.02	0.014	o					0.01
112.083	0.00	0.02	0.014	o					0.01
112.167	0.00	0.02	0.014	o					0.01
112.250	0.00	0.02	0.014	o					0.01
112.333	0.00	0.02	0.014	o					0.01
112.417	0.00	0.02	0.014	o					0.01
112.500	0.00	0.02	0.014	o					0.01
112.583	0.00	0.02	0.014	o					0.01
112.667	0.00	0.02	0.014	o					0.01
112.750	0.00	0.02	0.013	o					0.01
112.833	0.00	0.02	0.013	o					0.01
112.917	0.00	0.01	0.013	o					0.01
113.000	0.00	0.01	0.013	o					0.01
113.083	0.00	0.01	0.013	o					0.01
113.167	0.00	0.01	0.013	o					0.01
113.250	0.00	0.01	0.013	o					0.01
113.333	0.00	0.01	0.013	o					0.01
113.417	0.00	0.01	0.013	o					0.01
113.500	0.00	0.01	0.013	o					0.01
113.583	0.00	0.01	0.012	o					0.01
113.667	0.00	0.01	0.012	o					0.01
113.750	0.00	0.01	0.012	o					0.01
113.833	0.00	0.01	0.012	o					0.01
113.917	0.00	0.01	0.012	o					0.01
114.000	0.00	0.01	0.012	o					0.01
114.083	0.00	0.01	0.012	o					0.01
114.167	0.00	0.01	0.012	o					0.01
114.250	0.00	0.01	0.012	o					0.01
114.333	0.00	0.01	0.012	o					0.01
114.417	0.00	0.01	0.012	o					0.01
114.500	0.00	0.01	0.011	o					0.01
114.583	0.00	0.01	0.011	o					0.01
114.667	0.00	0.01	0.011	o					0.01
114.750	0.00	0.01	0.011	o					0.01
114.833	0.00	0.01	0.011	o					0.01



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

114.917	0.00	0.01	0.011	o					0.01
115.000	0.00	0.01	0.011	o					0.01
115.083	0.00	0.01	0.011	o					0.01
115.167	0.00	0.01	0.011	o					0.01
115.250	0.00	0.01	0.011	o					0.01
115.333	0.00	0.01	0.011	o					0.01
115.417	0.00	0.01	0.011	o					0.01
115.500	0.00	0.01	0.010	o					0.01
115.583	0.00	0.01	0.010	o					0.01
115.667	0.00	0.01	0.010	o					0.01
115.750	0.00	0.01	0.010	o					0.01
115.833	0.00	0.01	0.010	o					0.01
115.917	0.00	0.01	0.010	o					0.01
116.000	0.00	0.01	0.010	o					0.01
116.083	0.00	0.01	0.010	o					0.01
116.167	0.00	0.01	0.010	o					0.01
116.250	0.00	0.01	0.010	o					0.01
116.333	0.00	0.01	0.010	o					0.01
116.417	0.00	0.01	0.010	o					0.01
116.500	0.00	0.01	0.010	o					0.01
116.583	0.00	0.01	0.009	o					0.01
116.667	0.00	0.01	0.009	o					0.01
116.750	0.00	0.01	0.009	o					0.01
116.833	0.00	0.01	0.009	o					0.01
116.917	0.00	0.01	0.009	o					0.01
117.000	0.00	0.01	0.009	o					0.01
117.083	0.00	0.01	0.009	o					0.01
117.167	0.00	0.01	0.009	o					0.01
117.250	0.00	0.01	0.009	o					0.01
117.333	0.00	0.01	0.009	o					0.01
117.417	0.00	0.01	0.009	o					0.01
117.500	0.00	0.01	0.009	o					0.01
117.583	0.00	0.01	0.009	o					0.01
117.667	0.00	0.01	0.009	o					0.01
117.750	0.00	0.01	0.008	o					0.00
117.833	0.00	0.01	0.008	o					0.00
117.917	0.00	0.01	0.008	o					0.00
118.000	0.00	0.01	0.008	o					0.00
118.083	0.00	0.01	0.008	o					0.00
118.167	0.00	0.01	0.008	o					0.00
118.250	0.00	0.01	0.008	o					0.00
118.333	0.00	0.01	0.008	o					0.00
118.417	0.00	0.01	0.008	o					0.00
118.500	0.00	0.01	0.008	o					0.00
118.583	0.00	0.01	0.008	o					0.00
118.667	0.00	0.01	0.008	o					0.00
118.750	0.00	0.01	0.008	o					0.00
118.833	0.00	0.01	0.008	o					0.00
118.917	0.00	0.01	0.008	o					0.00
119.000	0.00	0.01	0.008	o					0.00
119.083	0.00	0.01	0.007	o					0.00
119.167	0.00	0.01	0.007	o					0.00
119.250	0.00	0.01	0.007	o					0.00
119.333	0.00	0.01	0.007	o					0.00
119.417	0.00	0.01	0.007	o					0.00
119.500	0.00	0.01	0.007	o					0.00
119.583	0.00	0.01	0.007	o					0.00
119.667	0.00	0.01	0.007	o					0.00
119.750	0.00	0.01	0.007	o					0.00
119.833	0.00	0.01	0.007	o					0.00
119.917	0.00	0.01	0.007	o					0.00
120.000	0.00	0.01	0.007	o					0.00
120.083	0.00	0.01	0.007	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

120.167	0.00	0.01	0.007	0					0.00
120.250	0.00	0.01	0.007	0					0.00
120.333	0.00	0.01	0.007	0					0.00
120.417	0.00	0.01	0.007	0					0.00
120.500	0.00	0.01	0.007	0					0.00
120.583	0.00	0.01	0.006	0					0.00
120.667	0.00	0.01	0.006	0					0.00
120.750	0.00	0.01	0.006	0					0.00
120.833	0.00	0.01	0.006	0					0.00
120.917	0.00	0.01	0.006	0					0.00
121.000	0.00	0.01	0.006	0					0.00
121.083	0.00	0.01	0.006	0					0.00
121.167	0.00	0.01	0.006	0					0.00
121.250	0.00	0.01	0.006	0					0.00
121.333	0.00	0.01	0.006	0					0.00
121.417	0.00	0.01	0.006	0					0.00
121.500	0.00	0.01	0.006	0					0.00
121.583	0.00	0.01	0.006	0					0.00
121.667	0.00	0.01	0.006	0					0.00
121.750	0.00	0.01	0.006	0					0.00
121.833	0.00	0.01	0.006	0					0.00
121.917	0.00	0.01	0.006	0					0.00
122.000	0.00	0.01	0.006	0					0.00
122.083	0.00	0.01	0.006	0					0.00
122.167	0.00	0.01	0.006	0					0.00
122.250	0.00	0.01	0.006	0					0.00
122.333	0.00	0.01	0.006	0					0.00
122.417	0.00	0.01	0.005	0					0.00
122.500	0.00	0.01	0.005	0					0.00
122.583	0.00	0.01	0.005	0					0.00
122.667	0.00	0.01	0.005	0					0.00
122.750	0.00	0.01	0.005	0					0.00
122.833	0.00	0.01	0.005	0					0.00
122.917	0.00	0.01	0.005	0					0.00
123.000	0.00	0.01	0.005	0					0.00
123.083	0.00	0.01	0.005	0					0.00
123.167	0.00	0.01	0.005	0					0.00
123.250	0.00	0.01	0.005	0					0.00
123.333	0.00	0.01	0.005	0					0.00
123.417	0.00	0.01	0.005	0					0.00
123.500	0.00	0.01	0.005	0					0.00
123.583	0.00	0.01	0.005	0					0.00
123.667	0.00	0.01	0.005	0					0.00
123.750	0.00	0.01	0.005	0					0.00
123.833	0.00	0.01	0.005	0					0.00
123.917	0.00	0.01	0.005	0					0.00
124.000	0.00	0.01	0.005	0					0.00
124.083	0.00	0.01	0.005	0					0.00
124.167	0.00	0.01	0.005	0					0.00
124.250	0.00	0.01	0.005	0					0.00
124.333	0.00	0.01	0.005	0					0.00
124.417	0.00	0.01	0.005	0					0.00
124.500	0.00	0.01	0.005	0					0.00
124.583	0.00	0.01	0.004	0					0.00
124.667	0.00	0.01	0.004	0					0.00
124.750	0.00	0.00	0.004	0					0.00
124.833	0.00	0.00	0.004	0					0.00
124.917	0.00	0.00	0.004	0					0.00
125.000	0.00	0.00	0.004	0					0.00
125.083	0.00	0.00	0.004	0					0.00
125.167	0.00	0.00	0.004	0					0.00
125.250	0.00	0.00	0.004	0					0.00
125.333	0.00	0.00	0.004	0					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

125.417	0.00	0.00	0.004	o					0.00
125.500	0.00	0.00	0.004	o					0.00
125.583	0.00	0.00	0.004	o					0.00
125.667	0.00	0.00	0.004	o					0.00
125.750	0.00	0.00	0.004	o					0.00
125.833	0.00	0.00	0.004	o					0.00
125.917	0.00	0.00	0.004	o					0.00
126.000	0.00	0.00	0.004	o					0.00
126.083	0.00	0.00	0.004	o					0.00
126.167	0.00	0.00	0.004	o					0.00
126.250	0.00	0.00	0.004	o					0.00
126.333	0.00	0.00	0.004	o					0.00
126.417	0.00	0.00	0.004	o					0.00
126.500	0.00	0.00	0.004	o					0.00
126.583	0.00	0.00	0.004	o					0.00
126.667	0.00	0.00	0.004	o					0.00
126.750	0.00	0.00	0.004	o					0.00
126.833	0.00	0.00	0.004	o					0.00
126.917	0.00	0.00	0.004	o					0.00
127.000	0.00	0.00	0.004	o					0.00
127.083	0.00	0.00	0.004	o					0.00
127.167	0.00	0.00	0.004	o					0.00
127.250	0.00	0.00	0.003	o					0.00
127.333	0.00	0.00	0.003	o					0.00
127.417	0.00	0.00	0.003	o					0.00
127.500	0.00	0.00	0.003	o					0.00
127.583	0.00	0.00	0.003	o					0.00
127.667	0.00	0.00	0.003	o					0.00
127.750	0.00	0.00	0.003	o					0.00
127.833	0.00	0.00	0.003	o					0.00
127.917	0.00	0.00	0.003	o					0.00
128.000	0.00	0.00	0.003	o					0.00
128.083	0.00	0.00	0.003	o					0.00
128.167	0.00	0.00	0.003	o					0.00
128.250	0.00	0.00	0.003	o					0.00
128.333	0.00	0.00	0.003	o					0.00
128.417	0.00	0.00	0.003	o					0.00
128.500	0.00	0.00	0.003	o					0.00
128.583	0.00	0.00	0.003	o					0.00
128.667	0.00	0.00	0.003	o					0.00
128.750	0.00	0.00	0.003	o					0.00
128.833	0.00	0.00	0.003	o					0.00
128.917	0.00	0.00	0.003	o					0.00
129.000	0.00	0.00	0.003	o					0.00
129.083	0.00	0.00	0.003	o					0.00
129.167	0.00	0.00	0.003	o					0.00
129.250	0.00	0.00	0.003	o					0.00
129.333	0.00	0.00	0.003	o					0.00
129.417	0.00	0.00	0.003	o					0.00
129.500	0.00	0.00	0.003	o					0.00
129.583	0.00	0.00	0.003	o					0.00
129.667	0.00	0.00	0.003	o					0.00
129.750	0.00	0.00	0.003	o					0.00
129.833	0.00	0.00	0.003	o					0.00
129.917	0.00	0.00	0.003	o					0.00
130.000	0.00	0.00	0.003	o					0.00
130.083	0.00	0.00	0.003	o					0.00
130.167	0.00	0.00	0.003	o					0.00
130.250	0.00	0.00	0.003	o					0.00
130.333	0.00	0.00	0.003	o					0.00
130.417	0.00	0.00	0.003	o					0.00
130.500	0.00	0.00	0.003	o					0.00
130.583	0.00	0.00	0.003	o					0.00

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

130.667	0.00	0.00	0.003	o					0.00
130.750	0.00	0.00	0.003	o					0.00
130.833	0.00	0.00	0.002	o					0.00
130.917	0.00	0.00	0.002	o					0.00
131.000	0.00	0.00	0.002	o					0.00
131.083	0.00	0.00	0.002	o					0.00
131.167	0.00	0.00	0.002	o					0.00
131.250	0.00	0.00	0.002	o					0.00
131.333	0.00	0.00	0.002	o					0.00
131.417	0.00	0.00	0.002	o					0.00
131.500	0.00	0.00	0.002	o					0.00
131.583	0.00	0.00	0.002	o					0.00
131.667	0.00	0.00	0.002	o					0.00
131.750	0.00	0.00	0.002	o					0.00
131.833	0.00	0.00	0.002	o					0.00
131.917	0.00	0.00	0.002	o					0.00
132.000	0.00	0.00	0.002	o					0.00
132.083	0.00	0.00	0.002	o					0.00
132.167	0.00	0.00	0.002	o					0.00
132.250	0.00	0.00	0.002	o					0.00
132.333	0.00	0.00	0.002	o					0.00
132.417	0.00	0.00	0.002	o					0.00
132.500	0.00	0.00	0.002	o					0.00
132.583	0.00	0.00	0.002	o					0.00
132.667	0.00	0.00	0.002	o					0.00
132.750	0.00	0.00	0.002	o					0.00
132.833	0.00	0.00	0.002	o					0.00
132.917	0.00	0.00	0.002	o					0.00
133.000	0.00	0.00	0.002	o					0.00
133.083	0.00	0.00	0.002	o					0.00
133.167	0.00	0.00	0.002	o					0.00
133.250	0.00	0.00	0.002	o					0.00
133.333	0.00	0.00	0.002	o					0.00
133.417	0.00	0.00	0.002	o					0.00
133.500	0.00	0.00	0.002	o					0.00
133.583	0.00	0.00	0.002	o					0.00
133.667	0.00	0.00	0.002	o					0.00
133.750	0.00	0.00	0.002	o					0.00
133.833	0.00	0.00	0.002	o					0.00
133.917	0.00	0.00	0.002	o					0.00
134.000	0.00	0.00	0.002	o					0.00
134.083	0.00	0.00	0.002	o					0.00
134.167	0.00	0.00	0.002	o					0.00
134.250	0.00	0.00	0.002	o					0.00
134.333	0.00	0.00	0.002	o					0.00
134.417	0.00	0.00	0.002	o					0.00
134.500	0.00	0.00	0.002	o					0.00
134.583	0.00	0.00	0.002	o					0.00
134.667	0.00	0.00	0.002	o					0.00
134.750	0.00	0.00	0.002	o					0.00
134.833	0.00	0.00	0.002	o					0.00
134.917	0.00	0.00	0.002	o					0.00
135.000	0.00	0.00	0.002	o					0.00
135.083	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*

Number of intervals = 1621

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 5.512 (CFS)

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

```
Total volume =      14.641 (Ac.Ft)
Status of hydrographs being held in storage
      Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
Peak (CFS)      0.000    0.000    0.000    0.000    0.000
Vol (Ac.Ft)     0.000    0.000    0.000    0.000    0.000
*****
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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 10-year 1-hour storm  
 -----

Program License Serial Number 4029

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 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx10prh110.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 18  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 168.929 (CFS)  
 Total volume = 6.134 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)          0.000    0.000    0.000    0.000    0.000  
 Vol (Ac.Ft)         0.000    0.000    0.000    0.000    0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 18  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	42.2	84.46	126.70	168.93	Depth (Ft.)
0.083	7.88	0.03	0.027	OI					0.02
0.167	23.87	0.15	0.136	O	I				0.08
0.250	31.10	0.36	0.323	O	I				0.19
0.333	37.92	0.63	0.558	O	I				0.33
0.417	41.18	0.93	0.825	O	I				0.49
0.500	45.84	1.26	1.117	O	I				0.66
0.583	54.71	1.64	1.453	O	I				0.86
0.667	67.07	1.94	1.860	O	I				1.08
0.750	85.87	2.05	2.373	O	I	I			1.32
0.833	141.61	2.20	3.142	O	I	I	I		1.69
0.917	168.93	2.39	4.195	O	I	I	I	I	2.14
1.000	90.73	2.51	5.072	O	I	I	I		2.46
1.083	50.63	2.58	5.542	O	I	I	I		2.64
1.167	22.04	2.61	5.774	O	I	I	I		2.72
1.250	11.88	2.62	5.873	O	I	I	I		2.76
1.333	6.85	2.63	5.919	O	I	I	I		2.77
1.417	1.88	2.63	5.931	O	I	I	I		2.78
1.500	0.60	2.63	5.922	O	I	I	I		2.78
1.583	0.00	2.62	5.906	O	I	I	I		2.77
1.667	0.00	2.62	5.887	O	I	I	I		2.76
1.750	0.00	2.62	5.869	O	I	I	I		2.76
1.833	0.00	2.62	5.851	O	I	I	I		2.75
1.917	0.00	2.61	5.833	O	I	I	I		2.74
2.000	0.00	2.61	5.815	O	I	I	I		2.74
2.083	0.00	2.61	5.797	O	I	I	I		2.73
2.167	0.00	2.61	5.779	O	I	I	I		2.72
2.250	0.00	2.61	5.761	O	I	I	I		2.72
2.333	0.00	2.60	5.744	O	I	I	I		2.71
2.417	0.00	2.60	5.726	O	I	I	I		2.70
2.500	0.00	2.60	5.708	O	I	I	I		2.70
2.583	0.00	2.60	5.690	O	I	I	I		2.69
2.667	0.00	2.59	5.672	O	I	I	I		2.68
2.750	0.00	2.59	5.654	O	I	I	I		2.68
2.833	0.00	2.59	5.636	O	I	I	I		2.67
2.917	0.00	2.59	5.618	O	I	I	I		2.66
3.000	0.00	2.58	5.601	O	I	I	I		2.66
3.083	0.00	2.58	5.583	O	I	I	I		2.65
3.167	0.00	2.58	5.565	O	I	I	I		2.64
3.250	0.00	2.58	5.547	O	I	I	I		2.64
3.333	0.00	2.57	5.530	O	I	I	I		2.63
3.417	0.00	2.57	5.512	O	I	I	I		2.63
3.500	0.00	2.57	5.494	O	I	I	I		2.62
3.583	0.00	2.57	5.477	O	I	I	I		2.61
3.667	0.00	2.56	5.459	O	I	I	I		2.61
3.750	0.00	2.56	5.441	O	I	I	I		2.60
3.833	0.00	2.56	5.424	O	I	I	I		2.59
3.917	0.00	2.56	5.406	O	I	I	I		2.59
4.000	0.00	2.55	5.388	O	I	I	I		2.58
4.083	0.00	2.55	5.371	O	I	I	I		2.57
4.167	0.00	2.55	5.353	O	I	I	I		2.57
4.250	0.00	2.55	5.336	O	I	I	I		2.56
4.333	0.00	2.55	5.318	O	I	I	I		2.55
4.417	0.00	2.54	5.301	O	I	I	I		2.55
4.500	0.00	2.54	5.283	O	I	I	I		2.54
4.583	0.00	2.54	5.266	O	I	I	I		2.54

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

4.667	0.00	2.54	5.248	0					2.53
4.750	0.00	2.53	5.231	0					2.52
4.833	0.00	2.53	5.213	0					2.52
4.917	0.00	2.53	5.196	0					2.51
5.000	0.00	2.53	5.178	0					2.50
5.083	0.00	2.52	5.161	0					2.50
5.167	0.00	2.52	5.144	0					2.49
5.250	0.00	2.52	5.126	0					2.48
5.333	0.00	2.52	5.109	0					2.48
5.417	0.00	2.51	5.092	0					2.47
5.500	0.00	2.51	5.074	0					2.46
5.583	0.00	2.51	5.057	0					2.46
5.667	0.00	2.51	5.040	0					2.45
5.750	0.00	2.50	5.022	0					2.45
5.833	0.00	2.50	5.005	0					2.44
5.917	0.00	2.50	4.988	0					2.43
6.000	0.00	2.50	4.971	0					2.43
6.083	0.00	2.50	4.954	0					2.42
6.167	0.00	2.49	4.936	0					2.41
6.250	0.00	2.49	4.919	0					2.41
6.333	0.00	2.49	4.902	0					2.40
6.417	0.00	2.49	4.885	0					2.40
6.500	0.00	2.48	4.868	0					2.39
6.583	0.00	2.48	4.851	0					2.38
6.667	0.00	2.48	4.834	0					2.38
6.750	0.00	2.48	4.817	0					2.37
6.833	0.00	2.47	4.800	0					2.36
6.917	0.00	2.47	4.783	0					2.36
7.000	0.00	2.47	4.766	0					2.35
7.083	0.00	2.47	4.749	0					2.35
7.167	0.00	2.47	4.732	0					2.34
7.250	0.00	2.46	4.715	0					2.33
7.333	0.00	2.46	4.698	0					2.33
7.417	0.00	2.46	4.681	0					2.32
7.500	0.00	2.46	4.664	0					2.31
7.583	0.00	2.45	4.647	0					2.31
7.667	0.00	2.45	4.630	0					2.30
7.750	0.00	2.45	4.613	0					2.30
7.833	0.00	2.45	4.596	0					2.29
7.917	0.00	2.44	4.579	0					2.28
8.000	0.00	2.44	4.563	0					2.28
8.083	0.00	2.44	4.546	0					2.27
8.167	0.00	2.44	4.529	0					2.26
8.250	0.00	2.44	4.512	0					2.26
8.333	0.00	2.43	4.495	0					2.25
8.417	0.00	2.43	4.479	0					2.25
8.500	0.00	2.43	4.462	0					2.24
8.583	0.00	2.43	4.445	0					2.23
8.667	0.00	2.42	4.428	0					2.23
8.750	0.00	2.42	4.412	0					2.22
8.833	0.00	2.42	4.395	0					2.22
8.917	0.00	2.42	4.378	0					2.21
9.000	0.00	2.42	4.362	0					2.20
9.083	0.00	2.41	4.345	0					2.20
9.167	0.00	2.41	4.329	0					2.19
9.250	0.00	2.41	4.312	0					2.19
9.333	0.00	2.41	4.295	0					2.18
9.417	0.00	2.40	4.279	0					2.17
9.500	0.00	2.40	4.262	0					2.17
9.583	0.00	2.40	4.246	0					2.16
9.667	0.00	2.40	4.229	0					2.16
9.750	0.00	2.40	4.213	0					2.15
9.833	0.00	2.39	4.196	0					2.14



**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

9.917	0.00	2.39	4.180	0					2.14
10.000	0.00	2.39	4.163	0					2.13
10.083	0.00	2.39	4.147	0					2.12
10.167	0.00	2.38	4.130	0					2.12
10.250	0.00	2.38	4.114	0					2.11
10.333	0.00	2.38	4.098	0					2.11
10.417	0.00	2.38	4.081	0					2.10
10.500	0.00	2.38	4.065	0					2.09
10.583	0.00	2.37	4.048	0					2.09
10.667	0.00	2.37	4.032	0					2.08
10.750	0.00	2.37	4.016	0					2.08
10.833	0.00	2.37	4.000	0					2.07
10.917	0.00	2.36	3.983	0					2.06
11.000	0.00	2.36	3.967	0					2.06
11.083	0.00	2.36	3.951	0					2.05
11.167	0.00	2.36	3.934	0					2.05
11.250	0.00	2.36	3.918	0					2.04
11.333	0.00	2.35	3.902	0					2.04
11.417	0.00	2.35	3.886	0					2.03
11.500	0.00	2.35	3.870	0					2.02
11.583	0.00	2.35	3.853	0					2.02
11.667	0.00	2.34	3.837	0					2.01
11.750	0.00	2.34	3.821	0					2.01
11.833	0.00	2.34	3.805	0					2.00
11.917	0.00	2.34	3.789	0					1.99
12.000	0.00	2.33	3.773	0					1.98
12.083	0.00	2.33	3.757	0					1.98
12.167	0.00	2.33	3.741	0					1.97
12.250	0.00	2.32	3.725	0					1.96
12.333	0.00	2.32	3.709	0					1.95
12.417	0.00	2.32	3.693	0					1.95
12.500	0.00	2.31	3.677	0					1.94
12.583	0.00	2.31	3.661	0					1.93
12.667	0.00	2.31	3.645	0					1.92
12.750	0.00	2.30	3.629	0					1.92
12.833	0.00	2.30	3.613	0					1.91
12.917	0.00	2.30	3.597	0					1.90
13.000	0.00	2.29	3.582	0					1.89
13.083	0.00	2.29	3.566	0					1.89
13.167	0.00	2.29	3.550	0					1.88
13.250	0.00	2.28	3.534	0					1.87
13.333	0.00	2.28	3.519	0					1.86
13.417	0.00	2.28	3.503	0					1.86
13.500	0.00	2.28	3.487	0					1.85
13.583	0.00	2.27	3.472	0					1.84
13.667	0.00	2.27	3.456	0					1.83
13.750	0.00	2.27	3.440	0					1.83
13.833	0.00	2.26	3.425	0					1.82
13.917	0.00	2.26	3.409	0					1.81
14.000	0.00	2.26	3.394	0					1.80
14.083	0.00	2.25	3.378	0					1.80
14.167	0.00	2.25	3.363	0					1.79
14.250	0.00	2.25	3.347	0					1.78
14.333	0.00	2.24	3.332	0					1.78
14.417	0.00	2.24	3.316	0					1.77
14.500	0.00	2.24	3.301	0					1.76
14.583	0.00	2.23	3.285	0					1.75
14.667	0.00	2.23	3.270	0					1.75
14.750	0.00	2.23	3.255	0					1.74
14.833	0.00	2.22	3.239	0					1.73
14.917	0.00	2.22	3.224	0					1.72
15.000	0.00	2.22	3.209	0					1.72
15.083	0.00	2.22	3.193	0					1.71

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	2.21	3.178	0					1.70
15.250	0.00	2.21	3.163	0					1.70
15.333	0.00	2.21	3.148	0					1.69
15.417	0.00	2.20	3.133	0					1.68
15.500	0.00	2.20	3.117	0					1.67
15.583	0.00	2.20	3.102	0					1.67
15.667	0.00	2.19	3.087	0					1.66
15.750	0.00	2.19	3.072	0					1.65
15.833	0.00	2.19	3.057	0					1.65
15.917	0.00	2.18	3.042	0					1.64
16.000	0.00	2.18	3.027	0					1.63
16.083	0.00	2.18	3.012	0					1.62
16.167	0.00	2.18	2.997	0					1.62
16.250	0.00	2.17	2.982	0					1.61
16.333	0.00	2.17	2.967	0					1.60
16.417	0.00	2.17	2.952	0					1.60
16.500	0.00	2.16	2.937	0					1.59
16.583	0.00	2.16	2.922	0					1.58
16.667	0.00	2.16	2.907	0					1.57
16.750	0.00	2.15	2.893	0					1.57
16.833	0.00	2.15	2.878	0					1.56
16.917	0.00	2.15	2.863	0					1.55
17.000	0.00	2.15	2.848	0					1.55
17.083	0.00	2.14	2.833	0					1.54
17.167	0.00	2.14	2.819	0					1.53
17.250	0.00	2.14	2.804	0					1.53
17.333	0.00	2.13	2.789	0					1.52
17.417	0.00	2.13	2.775	0					1.51
17.500	0.00	2.13	2.760	0					1.50
17.583	0.00	2.12	2.745	0					1.50
17.667	0.00	2.12	2.731	0					1.49
17.750	0.00	2.12	2.716	0					1.48
17.833	0.00	2.12	2.701	0					1.48
17.917	0.00	2.11	2.687	0					1.47
18.000	0.00	2.11	2.672	0					1.46
18.083	0.00	2.11	2.658	0					1.46
18.167	0.00	2.10	2.643	0					1.45
18.250	0.00	2.10	2.629	0					1.44
18.333	0.00	2.10	2.614	0					1.44
18.417	0.00	2.09	2.600	0					1.43
18.500	0.00	2.09	2.586	0					1.42
18.583	0.00	2.09	2.571	0					1.42
18.667	0.00	2.09	2.557	0					1.41
18.750	0.00	2.08	2.542	0					1.40
18.833	0.00	2.08	2.528	0					1.40
18.917	0.00	2.08	2.514	0					1.39
19.000	0.00	2.07	2.499	0					1.38
19.083	0.00	2.07	2.485	0					1.37
19.167	0.00	2.07	2.471	0					1.37
19.250	0.00	2.07	2.457	0					1.36
19.333	0.00	2.06	2.443	0					1.35
19.417	0.00	2.06	2.428	0					1.35
19.500	0.00	2.06	2.414	0					1.34
19.583	0.00	2.05	2.400	0					1.33
19.667	0.00	2.05	2.386	0					1.33
19.750	0.00	2.05	2.372	0					1.32
19.833	0.00	2.05	2.358	0					1.31
19.917	0.00	2.04	2.344	0					1.31
20.000	0.00	2.04	2.330	0					1.30
20.083	0.00	2.04	2.315	0					1.29
20.167	0.00	2.03	2.301	0					1.29
20.250	0.00	2.03	2.287	0					1.28
20.333	0.00	2.03	2.273	0					1.27

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.03	2.260	0					1.27
20.500	0.00	2.02	2.246	0					1.26
20.583	0.00	2.02	2.232	0					1.25
20.667	0.00	2.02	2.218	0					1.25
20.750	0.00	2.01	2.204	0					1.24
20.833	0.00	2.01	2.190	0					1.24
20.917	0.00	2.01	2.176	0					1.23
21.000	0.00	2.01	2.162	0					1.22
21.083	0.00	2.00	2.149	0					1.22
21.167	0.00	2.00	2.135	0					1.21
21.250	0.00	2.00	2.121	0					1.20
21.333	0.00	1.99	2.107	0					1.20
21.417	0.00	1.99	2.094	0					1.19
21.500	0.00	1.99	2.080	0					1.18
21.583	0.00	1.99	2.066	0					1.18
21.667	0.00	1.98	2.052	0					1.17
21.750	0.00	1.98	2.039	0					1.16
21.833	0.00	1.98	2.025	0					1.16
21.917	0.00	1.97	2.012	0					1.15
22.000	0.00	1.97	1.998	0					1.14
22.083	0.00	1.97	1.984	0					1.14
22.167	0.00	1.97	1.971	0					1.13
22.250	0.00	1.96	1.957	0					1.13
22.333	0.00	1.96	1.944	0					1.12
22.417	0.00	1.96	1.930	0					1.11
22.500	0.00	1.96	1.917	0					1.11
22.583	0.00	1.95	1.903	0					1.10
22.667	0.00	1.95	1.890	0					1.09
22.750	0.00	1.95	1.877	0					1.09
22.833	0.00	1.94	1.863	0					1.08
22.917	0.00	1.94	1.850	0					1.07
23.000	0.00	1.94	1.836	0					1.07
23.083	0.00	1.94	1.823	0					1.06
23.167	0.00	1.93	1.810	0					1.06
23.250	0.00	1.93	1.796	0					1.05
23.333	0.00	1.93	1.783	0					1.04
23.417	0.00	1.93	1.770	0					1.04
23.500	0.00	1.92	1.757	0					1.03
23.583	0.00	1.92	1.743	0					1.02
23.667	0.00	1.92	1.730	0					1.02
23.750	0.00	1.91	1.717	0					1.01
23.833	0.00	1.91	1.704	0					1.01
23.917	0.00	1.91	1.691	0					1.00
24.000	0.00	1.89	1.678	0					0.99
24.083	0.00	1.88	1.665	0					0.98
24.167	0.00	1.86	1.652	0					0.98
24.250	0.00	1.85	1.639	0					0.97
24.333	0.00	1.83	1.626	0					0.96
24.417	0.00	1.82	1.614	0					0.95
24.500	0.00	1.81	1.601	0					0.95
24.583	0.00	1.79	1.589	0					0.94
24.667	0.00	1.78	1.576	0					0.93
24.750	0.00	1.76	1.564	0					0.92
24.833	0.00	1.75	1.552	0					0.92
24.917	0.00	1.74	1.540	0					0.91
25.000	0.00	1.72	1.528	0					0.90
25.083	0.00	1.71	1.516	0					0.90
25.167	0.00	1.70	1.505	0					0.89
25.250	0.00	1.68	1.493	0					0.88
25.333	0.00	1.67	1.481	0					0.88
25.417	0.00	1.66	1.470	0					0.87
25.500	0.00	1.65	1.459	0					0.86
25.583	0.00	1.63	1.447	0					0.85

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	1.62	1.436	0					0.85
25.750	0.00	1.61	1.425	0					0.84
25.833	0.00	1.60	1.414	0					0.84
25.917	0.00	1.58	1.403	0					0.83
26.000	0.00	1.57	1.392	0					0.82
26.083	0.00	1.56	1.381	0					0.82
26.167	0.00	1.55	1.371	0					0.81
26.250	0.00	1.53	1.360	0					0.80
26.333	0.00	1.52	1.350	0					0.80
26.417	0.00	1.51	1.339	0					0.79
26.500	0.00	1.50	1.329	0					0.78
26.583	0.00	1.49	1.318	0					0.78
26.667	0.00	1.48	1.308	0					0.77
26.750	0.00	1.46	1.298	0					0.77
26.833	0.00	1.45	1.288	0					0.76
26.917	0.00	1.44	1.278	0					0.75
27.000	0.00	1.43	1.268	0					0.75
27.083	0.00	1.42	1.258	0					0.74
27.167	0.00	1.41	1.249	0					0.74
27.250	0.00	1.40	1.239	0					0.73
27.333	0.00	1.39	1.229	0					0.73
27.417	0.00	1.38	1.220	0					0.72
27.500	0.00	1.37	1.210	0					0.71
27.583	0.00	1.36	1.201	0					0.71
27.667	0.00	1.34	1.192	0					0.70
27.750	0.00	1.33	1.183	0					0.70
27.833	0.00	1.32	1.173	0					0.69
27.917	0.00	1.31	1.164	0					0.69
28.000	0.00	1.30	1.155	0					0.68
28.083	0.00	1.29	1.146	0					0.68
28.167	0.00	1.28	1.137	0					0.67
28.250	0.00	1.27	1.129	0					0.67
28.333	0.00	1.26	1.120	0					0.66
28.417	0.00	1.25	1.111	0					0.66
28.500	0.00	1.24	1.103	0					0.65
28.583	0.00	1.23	1.094	0					0.65
28.667	0.00	1.22	1.086	0					0.64
28.750	0.00	1.22	1.077	0					0.64
28.833	0.00	1.21	1.069	0					0.63
28.917	0.00	1.20	1.061	0					0.63
29.000	0.00	1.19	1.052	0					0.62
29.083	0.00	1.18	1.044	0					0.62
29.167	0.00	1.17	1.036	0					0.61
29.250	0.00	1.16	1.028	0					0.61
29.333	0.00	1.15	1.020	0					0.60
29.417	0.00	1.14	1.012	0					0.60
29.500	0.00	1.13	1.005	0					0.59
29.583	0.00	1.12	0.997	0					0.59
29.667	0.00	1.12	0.989	0					0.58
29.750	0.00	1.11	0.981	0					0.58
29.833	0.00	1.10	0.974	0					0.58
29.917	0.00	1.09	0.966	0					0.57
30.000	0.00	1.08	0.959	0					0.57
30.083	0.00	1.07	0.951	0					0.56
30.167	0.00	1.06	0.944	0					0.56
30.250	0.00	1.06	0.937	0					0.55
30.333	0.00	1.05	0.929	0					0.55
30.417	0.00	1.04	0.922	0					0.54
30.500	0.00	1.03	0.915	0					0.54
30.583	0.00	1.02	0.908	0					0.54
30.667	0.00	1.02	0.901	0					0.53
30.750	0.00	1.01	0.894	0					0.53
30.833	0.00	1.00	0.887	0					0.52

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	0.99	0.880	0					0.52
31.000	0.00	0.99	0.873	0					0.52
31.083	0.00	0.98	0.867	0					0.51
31.167	0.00	0.97	0.860	0					0.51
31.250	0.00	0.96	0.853	0					0.50
31.333	0.00	0.96	0.847	0					0.50
31.417	0.00	0.95	0.840	0					0.50
31.500	0.00	0.94	0.834	0					0.49
31.583	0.00	0.93	0.827	0					0.49
31.667	0.00	0.93	0.821	0					0.48
31.750	0.00	0.92	0.814	0					0.48
31.833	0.00	0.91	0.808	0					0.48
31.917	0.00	0.90	0.802	0					0.47
32.000	0.00	0.90	0.796	0					0.47
32.083	0.00	0.89	0.790	0					0.47
32.167	0.00	0.88	0.783	0					0.46
32.250	0.00	0.88	0.777	0					0.46
32.333	0.00	0.87	0.771	0					0.46
32.417	0.00	0.86	0.765	0					0.45
32.500	0.00	0.86	0.759	0					0.45
32.583	0.00	0.85	0.754	0					0.45
32.667	0.00	0.84	0.748	0					0.44
32.750	0.00	0.84	0.742	0					0.44
32.833	0.00	0.83	0.736	0					0.43
32.917	0.00	0.82	0.730	0					0.43
33.000	0.00	0.82	0.725	0					0.43
33.083	0.00	0.81	0.719	0					0.42
33.167	0.00	0.81	0.714	0					0.42
33.250	0.00	0.80	0.708	0					0.42
33.333	0.00	0.79	0.703	0					0.42
33.417	0.00	0.79	0.697	0					0.41
33.500	0.00	0.78	0.692	0					0.41
33.583	0.00	0.77	0.686	0					0.41
33.667	0.00	0.77	0.681	0					0.40
33.750	0.00	0.76	0.676	0					0.40
33.833	0.00	0.76	0.671	0					0.40
33.917	0.00	0.75	0.665	0					0.39
34.000	0.00	0.74	0.660	0					0.39
34.083	0.00	0.74	0.655	0					0.39
34.167	0.00	0.73	0.650	0					0.38
34.250	0.00	0.73	0.645	0					0.38
34.333	0.00	0.72	0.640	0					0.38
34.417	0.00	0.72	0.635	0					0.38
34.500	0.00	0.71	0.630	0					0.37
34.583	0.00	0.71	0.625	0					0.37
34.667	0.00	0.70	0.621	0					0.37
34.750	0.00	0.69	0.616	0					0.36
34.833	0.00	0.69	0.611	0					0.36
34.917	0.00	0.68	0.606	0					0.36
35.000	0.00	0.68	0.602	0					0.36
35.083	0.00	0.67	0.597	0					0.35
35.167	0.00	0.67	0.592	0					0.35
35.250	0.00	0.66	0.588	0					0.35
35.333	0.00	0.66	0.583	0					0.34
35.417	0.00	0.65	0.579	0					0.34
35.500	0.00	0.65	0.574	0					0.34
35.583	0.00	0.64	0.570	0					0.34
35.667	0.00	0.64	0.565	0					0.33
35.750	0.00	0.63	0.561	0					0.33
35.833	0.00	0.63	0.557	0					0.33
35.917	0.00	0.62	0.552	0					0.33
36.000	0.00	0.62	0.548	0					0.32
36.083	0.00	0.61	0.544	0					0.32

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	0.61	0.540	o					0.32
36.250	0.00	0.60	0.535	o					0.32
36.333	0.00	0.60	0.531	o					0.31
36.417	0.00	0.59	0.527	o					0.31
36.500	0.00	0.59	0.523	o					0.31
36.583	0.00	0.59	0.519	o					0.31
36.667	0.00	0.58	0.515	o					0.30
36.750	0.00	0.58	0.511	o					0.30
36.833	0.00	0.57	0.507	o					0.30
36.917	0.00	0.57	0.503	o					0.30
37.000	0.00	0.56	0.499	o					0.29
37.083	0.00	0.56	0.495	o					0.29
37.167	0.00	0.55	0.491	o					0.29
37.250	0.00	0.55	0.488	o					0.29
37.333	0.00	0.55	0.484	o					0.29
37.417	0.00	0.54	0.480	o					0.28
37.500	0.00	0.54	0.476	o					0.28
37.583	0.00	0.53	0.473	o					0.28
37.667	0.00	0.53	0.469	o					0.28
37.750	0.00	0.53	0.465	o					0.27
37.833	0.00	0.52	0.462	o					0.27
37.917	0.00	0.52	0.458	o					0.27
38.000	0.00	0.51	0.455	o					0.27
38.083	0.00	0.51	0.451	o					0.27
38.167	0.00	0.51	0.448	o					0.26
38.250	0.00	0.50	0.444	o					0.26
38.333	0.00	0.50	0.441	o					0.26
38.417	0.00	0.49	0.437	o					0.26
38.500	0.00	0.49	0.434	o					0.26
38.583	0.00	0.49	0.431	o					0.25
38.667	0.00	0.48	0.427	o					0.25
38.750	0.00	0.48	0.424	o					0.25
38.833	0.00	0.47	0.421	o					0.25
38.917	0.00	0.47	0.417	o					0.25
39.000	0.00	0.47	0.414	o					0.24
39.083	0.00	0.46	0.411	o					0.24
39.167	0.00	0.46	0.408	o					0.24
39.250	0.00	0.46	0.405	o					0.24
39.333	0.00	0.45	0.402	o					0.24
39.417	0.00	0.45	0.398	o					0.24
39.500	0.00	0.45	0.395	o					0.23
39.583	0.00	0.44	0.392	o					0.23
39.667	0.00	0.44	0.389	o					0.23
39.750	0.00	0.44	0.386	o					0.23
39.833	0.00	0.43	0.383	o					0.23
39.917	0.00	0.43	0.380	o					0.22
40.000	0.00	0.43	0.377	o					0.22
40.083	0.00	0.42	0.374	o					0.22
40.167	0.00	0.42	0.372	o					0.22
40.250	0.00	0.42	0.369	o					0.22
40.333	0.00	0.41	0.366	o					0.22
40.417	0.00	0.41	0.363	o					0.21
40.500	0.00	0.41	0.360	o					0.21
40.583	0.00	0.40	0.357	o					0.21
40.667	0.00	0.40	0.355	o					0.21
40.750	0.00	0.40	0.352	o					0.21
40.833	0.00	0.39	0.349	o					0.21
40.917	0.00	0.39	0.346	o					0.20
41.000	0.00	0.39	0.344	o					0.20
41.083	0.00	0.38	0.341	o					0.20
41.167	0.00	0.38	0.338	o					0.20
41.250	0.00	0.38	0.336	o					0.20
41.333	0.00	0.38	0.333	o					0.20

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

41.417	0.00	0.37	0.331	0					0.20
41.500	0.00	0.37	0.328	0					0.19
41.583	0.00	0.37	0.326	0					0.19
41.667	0.00	0.36	0.323	0					0.19
41.750	0.00	0.36	0.321	0					0.19
41.833	0.00	0.36	0.318	0					0.19
41.917	0.00	0.36	0.316	0					0.19
42.000	0.00	0.35	0.313	0					0.18
42.083	0.00	0.35	0.311	0					0.18
42.167	0.00	0.35	0.308	0					0.18
42.250	0.00	0.35	0.306	0					0.18
42.333	0.00	0.34	0.304	0					0.18
42.417	0.00	0.34	0.301	0					0.18
42.500	0.00	0.34	0.299	0					0.18
42.583	0.00	0.33	0.297	0					0.18
42.667	0.00	0.33	0.294	0					0.17
42.750	0.00	0.33	0.292	0					0.17
42.833	0.00	0.33	0.290	0					0.17
42.917	0.00	0.32	0.288	0					0.17
43.000	0.00	0.32	0.285	0					0.17
43.083	0.00	0.32	0.283	0					0.17
43.167	0.00	0.32	0.281	0					0.17
43.250	0.00	0.31	0.279	0					0.16
43.333	0.00	0.31	0.277	0					0.16
43.417	0.00	0.31	0.274	0					0.16
43.500	0.00	0.31	0.272	0					0.16
43.583	0.00	0.30	0.270	0					0.16
43.667	0.00	0.30	0.268	0					0.16
43.750	0.00	0.30	0.266	0					0.16
43.833	0.00	0.30	0.264	0					0.16
43.917	0.00	0.30	0.262	0					0.15
44.000	0.00	0.29	0.260	0					0.15
44.083	0.00	0.29	0.258	0					0.15
44.167	0.00	0.29	0.256	0					0.15
44.250	0.00	0.29	0.254	0					0.15
44.333	0.00	0.28	0.252	0					0.15
44.417	0.00	0.28	0.250	0					0.15
44.500	0.00	0.28	0.248	0					0.15
44.583	0.00	0.28	0.246	0					0.15
44.667	0.00	0.28	0.244	0					0.14
44.750	0.00	0.27	0.242	0					0.14
44.833	0.00	0.27	0.240	0					0.14
44.917	0.00	0.27	0.239	0					0.14
45.000	0.00	0.27	0.237	0					0.14
45.083	0.00	0.27	0.235	0					0.14
45.167	0.00	0.26	0.233	0					0.14
45.250	0.00	0.26	0.231	0					0.14
45.333	0.00	0.26	0.230	0					0.14
45.417	0.00	0.26	0.228	0					0.13
45.500	0.00	0.25	0.226	0					0.13
45.583	0.00	0.25	0.224	0					0.13
45.667	0.00	0.25	0.222	0					0.13
45.750	0.00	0.25	0.221	0					0.13
45.833	0.00	0.25	0.219	0					0.13
45.917	0.00	0.25	0.217	0					0.13
46.000	0.00	0.24	0.216	0					0.13
46.083	0.00	0.24	0.214	0					0.13
46.167	0.00	0.24	0.212	0					0.13
46.250	0.00	0.24	0.211	0					0.12
46.333	0.00	0.24	0.209	0					0.12
46.417	0.00	0.23	0.207	0					0.12
46.500	0.00	0.23	0.206	0					0.12
46.583	0.00	0.23	0.204	0					0.12

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.23	0.203	o					0.12
46.750	0.00	0.23	0.201	o					0.12
46.833	0.00	0.23	0.200	o					0.12
46.917	0.00	0.22	0.198	o					0.12
47.000	0.00	0.22	0.196	o					0.12
47.083	0.00	0.22	0.195	o					0.12
47.167	0.00	0.22	0.193	o					0.11
47.250	0.00	0.22	0.192	o					0.11
47.333	0.00	0.21	0.190	o					0.11
47.417	0.00	0.21	0.189	o					0.11
47.500	0.00	0.21	0.188	o					0.11
47.583	0.00	0.21	0.186	o					0.11
47.667	0.00	0.21	0.185	o					0.11
47.750	0.00	0.21	0.183	o					0.11
47.833	0.00	0.21	0.182	o					0.11
47.917	0.00	0.20	0.180	o					0.11
48.000	0.00	0.20	0.179	o					0.11
48.083	0.00	0.20	0.178	o					0.10
48.167	0.00	0.20	0.176	o					0.10
48.250	0.00	0.20	0.175	o					0.10
48.333	0.00	0.20	0.174	o					0.10
48.417	0.00	0.19	0.172	o					0.10
48.500	0.00	0.19	0.171	o					0.10
48.583	0.00	0.19	0.170	o					0.10
48.667	0.00	0.19	0.168	o					0.10
48.750	0.00	0.19	0.167	o					0.10
48.833	0.00	0.19	0.166	o					0.10
48.917	0.00	0.19	0.164	o					0.10
49.000	0.00	0.18	0.163	o					0.10
49.083	0.00	0.18	0.162	o					0.10
49.167	0.00	0.18	0.161	o					0.09
49.250	0.00	0.18	0.159	o					0.09
49.333	0.00	0.18	0.158	o					0.09
49.417	0.00	0.18	0.157	o					0.09
49.500	0.00	0.18	0.156	o					0.09
49.583	0.00	0.17	0.154	o					0.09
49.667	0.00	0.17	0.153	o					0.09
49.750	0.00	0.17	0.152	o					0.09
49.833	0.00	0.17	0.151	o					0.09
49.917	0.00	0.17	0.150	o					0.09
50.000	0.00	0.17	0.149	o					0.09
50.083	0.00	0.17	0.147	o					0.09
50.167	0.00	0.17	0.146	o					0.09
50.250	0.00	0.16	0.145	o					0.09
50.333	0.00	0.16	0.144	o					0.09
50.417	0.00	0.16	0.143	o					0.08
50.500	0.00	0.16	0.142	o					0.08
50.583	0.00	0.16	0.141	o					0.08
50.667	0.00	0.16	0.140	o					0.08
50.750	0.00	0.16	0.139	o					0.08
50.833	0.00	0.16	0.137	o					0.08
50.917	0.00	0.15	0.136	o					0.08
51.000	0.00	0.15	0.135	o					0.08
51.083	0.00	0.15	0.134	o					0.08
51.167	0.00	0.15	0.133	o					0.08
51.250	0.00	0.15	0.132	o					0.08
51.333	0.00	0.15	0.131	o					0.08
51.417	0.00	0.15	0.130	o					0.08
51.500	0.00	0.15	0.129	o					0.08
51.583	0.00	0.14	0.128	o					0.08
51.667	0.00	0.14	0.127	o					0.08
51.750	0.00	0.14	0.126	o					0.07
51.833	0.00	0.14	0.125	o					0.07



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.14	0.124	0					0.07
52.000	0.00	0.14	0.123	0					0.07
52.083	0.00	0.14	0.122	0					0.07
52.167	0.00	0.14	0.121	0					0.07
52.250	0.00	0.14	0.120	0					0.07
52.333	0.00	0.13	0.120	0					0.07
52.417	0.00	0.13	0.119	0					0.07
52.500	0.00	0.13	0.118	0					0.07
52.583	0.00	0.13	0.117	0					0.07
52.667	0.00	0.13	0.116	0					0.07
52.750	0.00	0.13	0.115	0					0.07
52.833	0.00	0.13	0.114	0					0.07
52.917	0.00	0.13	0.113	0					0.07
53.000	0.00	0.13	0.112	0					0.07
53.083	0.00	0.13	0.111	0					0.07
53.167	0.00	0.12	0.111	0					0.07
53.250	0.00	0.12	0.110	0					0.06
53.333	0.00	0.12	0.109	0					0.06
53.417	0.00	0.12	0.108	0					0.06
53.500	0.00	0.12	0.107	0					0.06
53.583	0.00	0.12	0.106	0					0.06
53.667	0.00	0.12	0.106	0					0.06
53.750	0.00	0.12	0.105	0					0.06
53.833	0.00	0.12	0.104	0					0.06
53.917	0.00	0.12	0.103	0					0.06
54.000	0.00	0.12	0.102	0					0.06
54.083	0.00	0.11	0.102	0					0.06
54.167	0.00	0.11	0.101	0					0.06
54.250	0.00	0.11	0.100	0					0.06
54.333	0.00	0.11	0.099	0					0.06
54.417	0.00	0.11	0.098	0					0.06
54.500	0.00	0.11	0.098	0					0.06
54.583	0.00	0.11	0.097	0					0.06
54.667	0.00	0.11	0.096	0					0.06
54.750	0.00	0.11	0.095	0					0.06
54.833	0.00	0.11	0.095	0					0.06
54.917	0.00	0.11	0.094	0					0.06
55.000	0.00	0.11	0.093	0					0.06
55.083	0.00	0.10	0.092	0					0.05
55.167	0.00	0.10	0.092	0					0.05
55.250	0.00	0.10	0.091	0					0.05
55.333	0.00	0.10	0.090	0					0.05
55.417	0.00	0.10	0.090	0					0.05
55.500	0.00	0.10	0.089	0					0.05
55.583	0.00	0.10	0.088	0					0.05
55.667	0.00	0.10	0.088	0					0.05
55.750	0.00	0.10	0.087	0					0.05
55.833	0.00	0.10	0.086	0					0.05
55.917	0.00	0.10	0.086	0					0.05
56.000	0.00	0.10	0.085	0					0.05
56.083	0.00	0.10	0.084	0					0.05
56.167	0.00	0.09	0.084	0					0.05
56.250	0.00	0.09	0.083	0					0.05
56.333	0.00	0.09	0.082	0					0.05
56.417	0.00	0.09	0.082	0					0.05
56.500	0.00	0.09	0.081	0					0.05
56.583	0.00	0.09	0.080	0					0.05
56.667	0.00	0.09	0.080	0					0.05
56.750	0.00	0.09	0.079	0					0.05
56.833	0.00	0.09	0.079	0					0.05
56.917	0.00	0.09	0.078	0					0.05
57.000	0.00	0.09	0.077	0					0.05
57.083	0.00	0.09	0.077	0					0.05

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.09	0.076	0					0.04
57.250	0.00	0.09	0.076	0					0.04
57.333	0.00	0.08	0.075	0					0.04
57.417	0.00	0.08	0.074	0					0.04
57.500	0.00	0.08	0.074	0					0.04
57.583	0.00	0.08	0.073	0					0.04
57.667	0.00	0.08	0.073	0					0.04
57.750	0.00	0.08	0.072	0					0.04
57.833	0.00	0.08	0.072	0					0.04
57.917	0.00	0.08	0.071	0					0.04
58.000	0.00	0.08	0.070	0					0.04
58.083	0.00	0.08	0.070	0					0.04
58.167	0.00	0.08	0.069	0					0.04
58.250	0.00	0.08	0.069	0					0.04
58.333	0.00	0.08	0.068	0					0.04
58.417	0.00	0.08	0.068	0					0.04
58.500	0.00	0.08	0.067	0					0.04
58.583	0.00	0.08	0.067	0					0.04
58.667	0.00	0.07	0.066	0					0.04
58.750	0.00	0.07	0.066	0					0.04
58.833	0.00	0.07	0.065	0					0.04
58.917	0.00	0.07	0.065	0					0.04
59.000	0.00	0.07	0.064	0					0.04
59.083	0.00	0.07	0.064	0					0.04
59.167	0.00	0.07	0.063	0					0.04
59.250	0.00	0.07	0.063	0					0.04
59.333	0.00	0.07	0.062	0					0.04
59.417	0.00	0.07	0.062	0					0.04
59.500	0.00	0.07	0.061	0					0.04
59.583	0.00	0.07	0.061	0					0.04
59.667	0.00	0.07	0.060	0					0.04
59.750	0.00	0.07	0.060	0					0.04
59.833	0.00	0.07	0.059	0					0.04
59.917	0.00	0.07	0.059	0					0.03
60.000	0.00	0.07	0.058	0					0.03
60.083	0.00	0.07	0.058	0					0.03
60.167	0.00	0.06	0.058	0					0.03
60.250	0.00	0.06	0.057	0					0.03
60.333	0.00	0.06	0.057	0					0.03
60.417	0.00	0.06	0.056	0					0.03
60.500	0.00	0.06	0.056	0					0.03
60.583	0.00	0.06	0.055	0					0.03
60.667	0.00	0.06	0.055	0					0.03
60.750	0.00	0.06	0.055	0					0.03
60.833	0.00	0.06	0.054	0					0.03
60.917	0.00	0.06	0.054	0					0.03
61.000	0.00	0.06	0.053	0					0.03
61.083	0.00	0.06	0.053	0					0.03
61.167	0.00	0.06	0.052	0					0.03
61.250	0.00	0.06	0.052	0					0.03
61.333	0.00	0.06	0.052	0					0.03
61.417	0.00	0.06	0.051	0					0.03
61.500	0.00	0.06	0.051	0					0.03
61.583	0.00	0.06	0.050	0					0.03
61.667	0.00	0.06	0.050	0					0.03
61.750	0.00	0.06	0.050	0					0.03
61.833	0.00	0.06	0.049	0					0.03
61.917	0.00	0.06	0.049	0					0.03
62.000	0.00	0.05	0.049	0					0.03
62.083	0.00	0.05	0.048	0					0.03
62.167	0.00	0.05	0.048	0					0.03
62.250	0.00	0.05	0.047	0					0.03
62.333	0.00	0.05	0.047	0					0.03

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.05	0.047	o					0.03
62.500	0.00	0.05	0.046	o					0.03
62.583	0.00	0.05	0.046	o					0.03
62.667	0.00	0.05	0.046	o					0.03
62.750	0.00	0.05	0.045	o					0.03
62.833	0.00	0.05	0.045	o					0.03
62.917	0.00	0.05	0.045	o					0.03
63.000	0.00	0.05	0.044	o					0.03
63.083	0.00	0.05	0.044	o					0.03
63.167	0.00	0.05	0.044	o					0.03
63.250	0.00	0.05	0.043	o					0.03
63.333	0.00	0.05	0.043	o					0.03
63.417	0.00	0.05	0.043	o					0.03
63.500	0.00	0.05	0.042	o					0.02
63.583	0.00	0.05	0.042	o					0.02
63.667	0.00	0.05	0.042	o					0.02
63.750	0.00	0.05	0.041	o					0.02
63.833	0.00	0.05	0.041	o					0.02
63.917	0.00	0.05	0.041	o					0.02
64.000	0.00	0.05	0.040	o					0.02
64.083	0.00	0.05	0.040	o					0.02
64.167	0.00	0.04	0.040	o					0.02
64.250	0.00	0.04	0.039	o					0.02
64.333	0.00	0.04	0.039	o					0.02
64.417	0.00	0.04	0.039	o					0.02
64.500	0.00	0.04	0.038	o					0.02
64.583	0.00	0.04	0.038	o					0.02
64.667	0.00	0.04	0.038	o					0.02
64.750	0.00	0.04	0.038	o					0.02
64.833	0.00	0.04	0.037	o					0.02
64.917	0.00	0.04	0.037	o					0.02
65.000	0.00	0.04	0.037	o					0.02
65.083	0.00	0.04	0.036	o					0.02
65.167	0.00	0.04	0.036	o					0.02
65.250	0.00	0.04	0.036	o					0.02
65.333	0.00	0.04	0.036	o					0.02
65.417	0.00	0.04	0.035	o					0.02
65.500	0.00	0.04	0.035	o					0.02
65.583	0.00	0.04	0.035	o					0.02
65.667	0.00	0.04	0.034	o					0.02
65.750	0.00	0.04	0.034	o					0.02
65.833	0.00	0.04	0.034	o					0.02
65.917	0.00	0.04	0.034	o					0.02
66.000	0.00	0.04	0.033	o					0.02
66.083	0.00	0.04	0.033	o					0.02
66.167	0.00	0.04	0.033	o					0.02
66.250	0.00	0.04	0.033	o					0.02
66.333	0.00	0.04	0.032	o					0.02
66.417	0.00	0.04	0.032	o					0.02
66.500	0.00	0.04	0.032	o					0.02
66.583	0.00	0.04	0.032	o					0.02
66.667	0.00	0.04	0.031	o					0.02
66.750	0.00	0.04	0.031	o					0.02
66.833	0.00	0.03	0.031	o					0.02
66.917	0.00	0.03	0.031	o					0.02
67.000	0.00	0.03	0.030	o					0.02
67.083	0.00	0.03	0.030	o					0.02
67.167	0.00	0.03	0.030	o					0.02
67.250	0.00	0.03	0.030	o					0.02
67.333	0.00	0.03	0.030	o					0.02
67.417	0.00	0.03	0.029	o					0.02
67.500	0.00	0.03	0.029	o					0.02
67.583	0.00	0.03	0.029	o					0.02

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.03	0.029	o					0.02
67.750	0.00	0.03	0.028	o					0.02
67.833	0.00	0.03	0.028	o					0.02
67.917	0.00	0.03	0.028	o					0.02
68.000	0.00	0.03	0.028	o					0.02
68.083	0.00	0.03	0.028	o					0.02
68.167	0.00	0.03	0.027	o					0.02
68.250	0.00	0.03	0.027	o					0.02
68.333	0.00	0.03	0.027	o					0.02
68.417	0.00	0.03	0.027	o					0.02
68.500	0.00	0.03	0.026	o					0.02
68.583	0.00	0.03	0.026	o					0.02
68.667	0.00	0.03	0.026	o					0.02
68.750	0.00	0.03	0.026	o					0.02
68.833	0.00	0.03	0.026	o					0.02
68.917	0.00	0.03	0.025	o					0.02
69.000	0.00	0.03	0.025	o					0.01
69.083	0.00	0.03	0.025	o					0.01
69.167	0.00	0.03	0.025	o					0.01
69.250	0.00	0.03	0.025	o					0.01
69.333	0.00	0.03	0.024	o					0.01
69.417	0.00	0.03	0.024	o					0.01
69.500	0.00	0.03	0.024	o					0.01
69.583	0.00	0.03	0.024	o					0.01
69.667	0.00	0.03	0.024	o					0.01
69.750	0.00	0.03	0.024	o					0.01
69.833	0.00	0.03	0.023	o					0.01
69.917	0.00	0.03	0.023	o					0.01
70.000	0.00	0.03	0.023	o					0.01
70.083	0.00	0.03	0.023	o					0.01
70.167	0.00	0.03	0.023	o					0.01
70.250	0.00	0.03	0.022	o					0.01
70.333	0.00	0.03	0.022	o					0.01
70.417	0.00	0.02	0.022	o					0.01
70.500	0.00	0.02	0.022	o					0.01
70.583	0.00	0.02	0.022	o					0.01
70.667	0.00	0.02	0.022	o					0.01
70.750	0.00	0.02	0.021	o					0.01
70.833	0.00	0.02	0.021	o					0.01
70.917	0.00	0.02	0.021	o					0.01
71.000	0.00	0.02	0.021	o					0.01
71.083	0.00	0.02	0.021	o					0.01
71.167	0.00	0.02	0.021	o					0.01
71.250	0.00	0.02	0.020	o					0.01
71.333	0.00	0.02	0.020	o					0.01
71.417	0.00	0.02	0.020	o					0.01
71.500	0.00	0.02	0.020	o					0.01
71.583	0.00	0.02	0.020	o					0.01
71.667	0.00	0.02	0.020	o					0.01
71.750	0.00	0.02	0.020	o					0.01
71.833	0.00	0.02	0.019	o					0.01
71.917	0.00	0.02	0.019	o					0.01
72.000	0.00	0.02	0.019	o					0.01
72.083	0.00	0.02	0.019	o					0.01
72.167	0.00	0.02	0.019	o					0.01
72.250	0.00	0.02	0.019	o					0.01
72.333	0.00	0.02	0.019	o					0.01
72.417	0.00	0.02	0.018	o					0.01
72.500	0.00	0.02	0.018	o					0.01
72.583	0.00	0.02	0.018	o					0.01
72.667	0.00	0.02	0.018	o					0.01
72.750	0.00	0.02	0.018	o					0.01
72.833	0.00	0.02	0.018	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.02	0.018	o					0.01
73.000	0.00	0.02	0.017	o					0.01
73.083	0.00	0.02	0.017	o					0.01
73.167	0.00	0.02	0.017	o					0.01
73.250	0.00	0.02	0.017	o					0.01
73.333	0.00	0.02	0.017	o					0.01
73.417	0.00	0.02	0.017	o					0.01
73.500	0.00	0.02	0.017	o					0.01
73.583	0.00	0.02	0.016	o					0.01
73.667	0.00	0.02	0.016	o					0.01
73.750	0.00	0.02	0.016	o					0.01
73.833	0.00	0.02	0.016	o					0.01
73.917	0.00	0.02	0.016	o					0.01
74.000	0.00	0.02	0.016	o					0.01
74.083	0.00	0.02	0.016	o					0.01
74.167	0.00	0.02	0.016	o					0.01
74.250	0.00	0.02	0.015	o					0.01
74.333	0.00	0.02	0.015	o					0.01
74.417	0.00	0.02	0.015	o					0.01
74.500	0.00	0.02	0.015	o					0.01
74.583	0.00	0.02	0.015	o					0.01
74.667	0.00	0.02	0.015	o					0.01
74.750	0.00	0.02	0.015	o					0.01
74.833	0.00	0.02	0.015	o					0.01
74.917	0.00	0.02	0.015	o					0.01
75.000	0.00	0.02	0.014	o					0.01
75.083	0.00	0.02	0.014	o					0.01
75.167	0.00	0.02	0.014	o					0.01
75.250	0.00	0.02	0.014	o					0.01
75.333	0.00	0.02	0.014	o					0.01
75.417	0.00	0.02	0.014	o					0.01
75.500	0.00	0.02	0.014	o					0.01
75.583	0.00	0.02	0.014	o					0.01
75.667	0.00	0.02	0.014	o					0.01
75.750	0.00	0.02	0.013	o					0.01
75.833	0.00	0.02	0.013	o					0.01
75.917	0.00	0.01	0.013	o					0.01
76.000	0.00	0.01	0.013	o					0.01
76.083	0.00	0.01	0.013	o					0.01
76.167	0.00	0.01	0.013	o					0.01
76.250	0.00	0.01	0.013	o					0.01
76.333	0.00	0.01	0.013	o					0.01
76.417	0.00	0.01	0.013	o					0.01
76.500	0.00	0.01	0.013	o					0.01
76.583	0.00	0.01	0.012	o					0.01
76.667	0.00	0.01	0.012	o					0.01
76.750	0.00	0.01	0.012	o					0.01
76.833	0.00	0.01	0.012	o					0.01
76.917	0.00	0.01	0.012	o					0.01
77.000	0.00	0.01	0.012	o					0.01
77.083	0.00	0.01	0.012	o					0.01
77.167	0.00	0.01	0.012	o					0.01
77.250	0.00	0.01	0.012	o					0.01
77.333	0.00	0.01	0.012	o					0.01
77.417	0.00	0.01	0.012	o					0.01
77.500	0.00	0.01	0.011	o					0.01
77.583	0.00	0.01	0.011	o					0.01
77.667	0.00	0.01	0.011	o					0.01
77.750	0.00	0.01	0.011	o					0.01
77.833	0.00	0.01	0.011	o					0.01
77.917	0.00	0.01	0.011	o					0.01
78.000	0.00	0.01	0.011	o					0.01
78.083	0.00	0.01	0.011	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.01	0.011	o					0.01
78.250	0.00	0.01	0.011	o					0.01
78.333	0.00	0.01	0.011	o					0.01
78.417	0.00	0.01	0.010	o					0.01
78.500	0.00	0.01	0.010	o					0.01
78.583	0.00	0.01	0.010	o					0.01
78.667	0.00	0.01	0.010	o					0.01
78.750	0.00	0.01	0.010	o					0.01
78.833	0.00	0.01	0.010	o					0.01
78.917	0.00	0.01	0.010	o					0.01
79.000	0.00	0.01	0.010	o					0.01
79.083	0.00	0.01	0.010	o					0.01
79.167	0.00	0.01	0.010	o					0.01
79.250	0.00	0.01	0.010	o					0.01
79.333	0.00	0.01	0.010	o					0.01
79.417	0.00	0.01	0.010	o					0.01
79.500	0.00	0.01	0.009	o					0.01
79.583	0.00	0.01	0.009	o					0.01
79.667	0.00	0.01	0.009	o					0.01
79.750	0.00	0.01	0.009	o					0.01
79.833	0.00	0.01	0.009	o					0.01
79.917	0.00	0.01	0.009	o					0.01
80.000	0.00	0.01	0.009	o					0.01
80.083	0.00	0.01	0.009	o					0.01
80.167	0.00	0.01	0.009	o					0.01
80.250	0.00	0.01	0.009	o					0.01
80.333	0.00	0.01	0.009	o					0.01
80.417	0.00	0.01	0.009	o					0.01
80.500	0.00	0.01	0.009	o					0.01
80.583	0.00	0.01	0.009	o					0.01
80.667	0.00	0.01	0.009	o					0.01
80.750	0.00	0.01	0.008	o					0.00
80.833	0.00	0.01	0.008	o					0.00
80.917	0.00	0.01	0.008	o					0.00
81.000	0.00	0.01	0.008	o					0.00
81.083	0.00	0.01	0.008	o					0.00
81.167	0.00	0.01	0.008	o					0.00
81.250	0.00	0.01	0.008	o					0.00
81.333	0.00	0.01	0.008	o					0.00
81.417	0.00	0.01	0.008	o					0.00
81.500	0.00	0.01	0.008	o					0.00
81.583	0.00	0.01	0.008	o					0.00
81.667	0.00	0.01	0.008	o					0.00
81.750	0.00	0.01	0.008	o					0.00
81.833	0.00	0.01	0.008	o					0.00
81.917	0.00	0.01	0.008	o					0.00
82.000	0.00	0.01	0.008	o					0.00
82.083	0.00	0.01	0.007	o					0.00
82.167	0.00	0.01	0.007	o					0.00
82.250	0.00	0.01	0.007	o					0.00
82.333	0.00	0.01	0.007	o					0.00
82.417	0.00	0.01	0.007	o					0.00
82.500	0.00	0.01	0.007	o					0.00
82.583	0.00	0.01	0.007	o					0.00
82.667	0.00	0.01	0.007	o					0.00
82.750	0.00	0.01	0.007	o					0.00
82.833	0.00	0.01	0.007	o					0.00
82.917	0.00	0.01	0.007	o					0.00
83.000	0.00	0.01	0.007	o					0.00
83.083	0.00	0.01	0.007	o					0.00
83.167	0.00	0.01	0.007	o					0.00
83.250	0.00	0.01	0.007	o					0.00
83.333	0.00	0.01	0.007	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.01	0.007	o					0.00
83.500	0.00	0.01	0.007	o					0.00
83.583	0.00	0.01	0.006	o					0.00
83.667	0.00	0.01	0.006	o					0.00
83.750	0.00	0.01	0.006	o					0.00
83.833	0.00	0.01	0.006	o					0.00
83.917	0.00	0.01	0.006	o					0.00
84.000	0.00	0.01	0.006	o					0.00
84.083	0.00	0.01	0.006	o					0.00
84.167	0.00	0.01	0.006	o					0.00
84.250	0.00	0.01	0.006	o					0.00
84.333	0.00	0.01	0.006	o					0.00
84.417	0.00	0.01	0.006	o					0.00
84.500	0.00	0.01	0.006	o					0.00
84.583	0.00	0.01	0.006	o					0.00
84.667	0.00	0.01	0.006	o					0.00
84.750	0.00	0.01	0.006	o					0.00
84.833	0.00	0.01	0.006	o					0.00
84.917	0.00	0.01	0.006	o					0.00
85.000	0.00	0.01	0.006	o					0.00
85.083	0.00	0.01	0.006	o					0.00
85.167	0.00	0.01	0.006	o					0.00
85.250	0.00	0.01	0.006	o					0.00
85.333	0.00	0.01	0.006	o					0.00
85.417	0.00	0.01	0.005	o					0.00
85.500	0.00	0.01	0.005	o					0.00
85.583	0.00	0.01	0.005	o					0.00
85.667	0.00	0.01	0.005	o					0.00
85.750	0.00	0.01	0.005	o					0.00
85.833	0.00	0.01	0.005	o					0.00
85.917	0.00	0.01	0.005	o					0.00
86.000	0.00	0.01	0.005	o					0.00
86.083	0.00	0.01	0.005	o					0.00
86.167	0.00	0.01	0.005	o					0.00
86.250	0.00	0.01	0.005	o					0.00
86.333	0.00	0.01	0.005	o					0.00
86.417	0.00	0.01	0.005	o					0.00
86.500	0.00	0.01	0.005	o					0.00
86.583	0.00	0.01	0.005	o					0.00
86.667	0.00	0.01	0.005	o					0.00
86.750	0.00	0.01	0.005	o					0.00
86.833	0.00	0.01	0.005	o					0.00
86.917	0.00	0.01	0.005	o					0.00
87.000	0.00	0.01	0.005	o					0.00
87.083	0.00	0.01	0.005	o					0.00
87.167	0.00	0.01	0.005	o					0.00
87.250	0.00	0.01	0.005	o					0.00
87.333	0.00	0.01	0.005	o					0.00
87.417	0.00	0.01	0.005	o					0.00
87.500	0.00	0.01	0.005	o					0.00
87.583	0.00	0.01	0.004	o					0.00
87.667	0.00	0.01	0.004	o					0.00
87.750	0.00	0.00	0.004	o					0.00
87.833	0.00	0.00	0.004	o					0.00
87.917	0.00	0.00	0.004	o					0.00
88.000	0.00	0.00	0.004	o					0.00
88.083	0.00	0.00	0.004	o					0.00
88.167	0.00	0.00	0.004	o					0.00
88.250	0.00	0.00	0.004	o					0.00
88.333	0.00	0.00	0.004	o					0.00
88.417	0.00	0.00	0.004	o					0.00
88.500	0.00	0.00	0.004	o					0.00
88.583	0.00	0.00	0.004	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.00	0.004	o					0.00
88.750	0.00	0.00	0.004	o					0.00
88.833	0.00	0.00	0.004	o					0.00
88.917	0.00	0.00	0.004	o					0.00
89.000	0.00	0.00	0.004	o					0.00
89.083	0.00	0.00	0.004	o					0.00
89.167	0.00	0.00	0.004	o					0.00
89.250	0.00	0.00	0.004	o					0.00
89.333	0.00	0.00	0.004	o					0.00
89.417	0.00	0.00	0.004	o					0.00
89.500	0.00	0.00	0.004	o					0.00
89.583	0.00	0.00	0.004	o					0.00
89.667	0.00	0.00	0.004	o					0.00
89.750	0.00	0.00	0.004	o					0.00
89.833	0.00	0.00	0.004	o					0.00
89.917	0.00	0.00	0.004	o					0.00
90.000	0.00	0.00	0.004	o					0.00
90.083	0.00	0.00	0.004	o					0.00
90.167	0.00	0.00	0.004	o					0.00
90.250	0.00	0.00	0.003	o					0.00
90.333	0.00	0.00	0.003	o					0.00
90.417	0.00	0.00	0.003	o					0.00
90.500	0.00	0.00	0.003	o					0.00
90.583	0.00	0.00	0.003	o					0.00
90.667	0.00	0.00	0.003	o					0.00
90.750	0.00	0.00	0.003	o					0.00
90.833	0.00	0.00	0.003	o					0.00
90.917	0.00	0.00	0.003	o					0.00
91.000	0.00	0.00	0.003	o					0.00
91.083	0.00	0.00	0.003	o					0.00
91.167	0.00	0.00	0.003	o					0.00
91.250	0.00	0.00	0.003	o					0.00
91.333	0.00	0.00	0.003	o					0.00
91.417	0.00	0.00	0.003	o					0.00
91.500	0.00	0.00	0.003	o					0.00
91.583	0.00	0.00	0.003	o					0.00
91.667	0.00	0.00	0.003	o					0.00
91.750	0.00	0.00	0.003	o					0.00
91.833	0.00	0.00	0.003	o					0.00
91.917	0.00	0.00	0.003	o					0.00
92.000	0.00	0.00	0.003	o					0.00
92.083	0.00	0.00	0.003	o					0.00
92.167	0.00	0.00	0.003	o					0.00
92.250	0.00	0.00	0.003	o					0.00
92.333	0.00	0.00	0.003	o					0.00
92.417	0.00	0.00	0.003	o					0.00
92.500	0.00	0.00	0.003	o					0.00
92.583	0.00	0.00	0.003	o					0.00
92.667	0.00	0.00	0.003	o					0.00
92.750	0.00	0.00	0.003	o					0.00
92.833	0.00	0.00	0.003	o					0.00
92.917	0.00	0.00	0.003	o					0.00
93.000	0.00	0.00	0.003	o					0.00
93.083	0.00	0.00	0.003	o					0.00
93.167	0.00	0.00	0.003	o					0.00
93.250	0.00	0.00	0.003	o					0.00
93.333	0.00	0.00	0.003	o					0.00
93.417	0.00	0.00	0.003	o					0.00
93.500	0.00	0.00	0.003	o					0.00
93.583	0.00	0.00	0.003	o					0.00
93.667	0.00	0.00	0.003	o					0.00
93.750	0.00	0.00	0.003	o					0.00
93.833	0.00	0.00	0.002	o					0.00



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.00	0.002	0					0.00
94.000	0.00	0.00	0.002	0					0.00
94.083	0.00	0.00	0.002	0					0.00
94.167	0.00	0.00	0.002	0					0.00
94.250	0.00	0.00	0.002	0					0.00
94.333	0.00	0.00	0.002	0					0.00
94.417	0.00	0.00	0.002	0					0.00
94.500	0.00	0.00	0.002	0					0.00
94.583	0.00	0.00	0.002	0					0.00
94.667	0.00	0.00	0.002	0					0.00
94.750	0.00	0.00	0.002	0					0.00
94.833	0.00	0.00	0.002	0					0.00
94.917	0.00	0.00	0.002	0					0.00
95.000	0.00	0.00	0.002	0					0.00
95.083	0.00	0.00	0.002	0					0.00
95.167	0.00	0.00	0.002	0					0.00
95.250	0.00	0.00	0.002	0					0.00
95.333	0.00	0.00	0.002	0					0.00
95.417	0.00	0.00	0.002	0					0.00
95.500	0.00	0.00	0.002	0					0.00
95.583	0.00	0.00	0.002	0					0.00
95.667	0.00	0.00	0.002	0					0.00
95.750	0.00	0.00	0.002	0					0.00
95.833	0.00	0.00	0.002	0					0.00
95.917	0.00	0.00	0.002	0					0.00
96.000	0.00	0.00	0.002	0					0.00
96.083	0.00	0.00	0.002	0					0.00
96.167	0.00	0.00	0.002	0					0.00
96.250	0.00	0.00	0.002	0					0.00
96.333	0.00	0.00	0.002	0					0.00
96.417	0.00	0.00	0.002	0					0.00
96.500	0.00	0.00	0.002	0					0.00
96.583	0.00	0.00	0.002	0					0.00
96.667	0.00	0.00	0.002	0					0.00
96.750	0.00	0.00	0.002	0					0.00
96.833	0.00	0.00	0.002	0					0.00
96.917	0.00	0.00	0.002	0					0.00
97.000	0.00	0.00	0.002	0					0.00
97.083	0.00	0.00	0.002	0					0.00
97.167	0.00	0.00	0.002	0					0.00
97.250	0.00	0.00	0.002	0					0.00
97.333	0.00	0.00	0.002	0					0.00
97.417	0.00	0.00	0.002	0					0.00
97.500	0.00	0.00	0.002	0					0.00
97.583	0.00	0.00	0.002	0					0.00
97.667	0.00	0.00	0.002	0					0.00
97.750	0.00	0.00	0.002	0					0.00
97.833	0.00	0.00	0.002	0					0.00
97.917	0.00	0.00	0.002	0					0.00
98.000	0.00	0.00	0.002	0					0.00

Remaining water in basin = 0.00 (Ac.Ft)

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*

Number of intervals = 1176  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 2.628 (CFS)  
 Total volume = 6.132 (Ac.Ft)  
 Status of hydrographs being held in storage  
     Stream 1 Stream 2 Stream 3 Stream 4 Stream 5  
 Peak (CFS) 0.000 0.000 0.000 0.000 0.000

Keller Crossing – Tract 38163  
ATTACHMENT E – Detention Basin Routing

Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000
*****					

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

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 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 10-year 3-hour storm  
 -----

Program License Serial Number 4029

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 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx10prh310.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 42  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 103.364 (CFS)  
 Total volume = 8.328 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 42  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	25.8	51.68	77.52	103.36	Depth (Ft.)
0.083	3.26	0.01	0.011	OI					0.01
0.167	9.77	0.06	0.056	O I					0.03
0.250	11.07	0.14	0.127	O I					0.07
0.333	11.89	0.23	0.205	O I					0.12
0.417	14.08	0.33	0.292	O I					0.17
0.500	15.53	0.44	0.391	O I					0.23
0.583	16.67	0.56	0.499	O I					0.29
0.667	16.44	0.69	0.609	O I					0.36
0.750	17.76	0.81	0.721	O I					0.43
0.833	17.41	0.94	0.836	O I					0.49
0.917	16.30	1.07	0.945	O I					0.56
1.000	16.98	1.19	1.052	O I					0.62
1.083	18.95	1.32	1.167	O I					0.69
1.167	21.24	1.46	1.296	O I					0.77
1.250	21.89	1.62	1.434	O I					0.85
1.333	21.68	1.77	1.572	O I					0.93
1.417	22.78	1.91	1.713	O I					1.01
1.500	26.81	1.95	1.870	O I					1.08
1.583	27.39	1.98	2.043	O I					1.17
1.667	26.82	2.02	2.216	O I					1.25
1.750	31.32	2.05	2.402	O I					1.34
1.833	35.90	2.10	2.620	O I		I			1.44
1.917	35.11	2.15	2.850	O I		I			1.55
2.000	34.16	2.19	3.073	O I		I			1.65
2.083	35.09	2.24	3.296	O I		I			1.76
2.167	40.53	2.29	3.541	O I		I			1.87
2.250	52.95	2.35	3.847	O I		I			2.02
2.333	55.84	2.39	4.206	O I		I			2.15
2.417	60.04	2.45	4.588	O I		I			2.29
2.500	86.83	2.51	5.077	O I		I		I	2.47
2.583	101.22	2.60	5.707	O I		I		I	2.70
2.667	103.36	2.69	6.393	O I		I		I	2.95
2.750	73.66	2.75	6.984	O I		I		I	3.14
2.833	39.49	2.79	7.354	O I		I		I	3.26
2.917	29.27	2.81	7.572	O I		I		I	3.32
3.000	21.27	2.83	7.726	O I		I		I	3.37
3.083	10.96	2.84	7.818	O I		I		I	3.40
3.167	4.35	2.84	7.851	OI		I		I	3.41
3.250	1.72	2.84	7.852	O		I		I	3.41
3.333	0.88	2.84	7.842	O		I		I	3.41
3.417	0.42	2.84	7.826	O		I		I	3.40
3.500	0.10	2.84	7.809	O		I		I	3.40
3.583	0.00	2.84	7.789	O		I		I	3.39
3.667	0.00	2.83	7.770	O		I		I	3.39
3.750	0.00	2.83	7.750	O		I		I	3.38
3.833	0.00	2.83	7.731	O		I		I	3.37
3.917	0.00	2.83	7.711	O		I		I	3.37
4.000	0.00	2.83	7.692	O		I		I	3.36
4.083	0.00	2.82	7.673	O		I		I	3.36
4.167	0.00	2.82	7.653	O		I		I	3.35
4.250	0.00	2.82	7.634	O		I		I	3.34
4.333	0.00	2.82	7.614	O		I		I	3.34
4.417	0.00	2.82	7.595	O		I		I	3.33
4.500	0.00	2.81	7.576	O		I		I	3.32
4.583	0.00	2.81	7.556	O		I		I	3.32

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	0.00	2.81	7.537	0					3.31
4.750	0.00	2.81	7.517	0					3.31
4.833	0.00	2.81	7.498	0					3.30
4.917	0.00	2.80	7.479	0					3.29
5.000	0.00	2.80	7.459	0					3.29
5.083	0.00	2.80	7.440	0					3.28
5.167	0.00	2.80	7.421	0					3.28
5.250	0.00	2.80	7.402	0					3.27
5.333	0.00	2.79	7.382	0					3.26
5.417	0.00	2.79	7.363	0					3.26
5.500	0.00	2.79	7.344	0					3.25
5.583	0.00	2.79	7.325	0					3.25
5.667	0.00	2.79	7.305	0					3.24
5.750	0.00	2.79	7.286	0					3.23
5.833	0.00	2.78	7.267	0					3.23
5.917	0.00	2.78	7.248	0					3.22
6.000	0.00	2.78	7.229	0					3.22
6.083	0.00	2.78	7.210	0					3.21
6.167	0.00	2.78	7.191	0					3.20
6.250	0.00	2.77	7.171	0					3.20
6.333	0.00	2.77	7.152	0					3.19
6.417	0.00	2.77	7.133	0					3.19
6.500	0.00	2.77	7.114	0					3.18
6.583	0.00	2.77	7.095	0					3.17
6.667	0.00	2.76	7.076	0					3.17
6.750	0.00	2.76	7.057	0					3.16
6.833	0.00	2.76	7.038	0					3.16
6.917	0.00	2.76	7.019	0					3.15
7.000	0.00	2.76	7.000	0					3.15
7.083	0.00	2.75	6.981	0					3.14
7.167	0.00	2.75	6.962	0					3.13
7.250	0.00	2.75	6.943	0					3.13
7.333	0.00	2.75	6.924	0					3.12
7.417	0.00	2.75	6.905	0					3.12
7.500	0.00	2.75	6.886	0					3.11
7.583	0.00	2.74	6.868	0					3.10
7.667	0.00	2.74	6.849	0					3.10
7.750	0.00	2.74	6.830	0					3.09
7.833	0.00	2.74	6.811	0					3.09
7.917	0.00	2.74	6.792	0					3.08
8.000	0.00	2.73	6.773	0					3.07
8.083	0.00	2.73	6.754	0					3.07
8.167	0.00	2.73	6.736	0					3.06
8.250	0.00	2.73	6.717	0					3.06
8.333	0.00	2.73	6.698	0					3.05
8.417	0.00	2.72	6.679	0					3.05
8.500	0.00	2.72	6.660	0					3.04
8.583	0.00	2.72	6.642	0					3.03
8.667	0.00	2.72	6.623	0					3.03
8.750	0.00	2.72	6.604	0					3.02
8.833	0.00	2.72	6.586	0					3.02
8.917	0.00	2.71	6.567	0					3.01
9.000	0.00	2.71	6.548	0					3.00
9.083	0.00	2.71	6.530	0					3.00
9.167	0.00	2.71	6.511	0					2.99
9.250	0.00	2.70	6.492	0					2.98
9.333	0.00	2.70	6.474	0					2.98
9.417	0.00	2.70	6.455	0					2.97
9.500	0.00	2.70	6.436	0					2.96
9.583	0.00	2.69	6.418	0					2.96
9.667	0.00	2.69	6.399	0					2.95
9.750	0.00	2.69	6.381	0					2.94
9.833	0.00	2.69	6.362	0					2.94

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.68	6.344	0					2.93
10.000	0.00	2.68	6.325	0					2.92
10.083	0.00	2.68	6.307	0					2.92
10.167	0.00	2.68	6.288	0					2.91
10.250	0.00	2.67	6.270	0					2.90
10.333	0.00	2.67	6.252	0					2.90
10.417	0.00	2.67	6.233	0					2.89
10.500	0.00	2.67	6.215	0					2.88
10.583	0.00	2.66	6.196	0					2.88
10.667	0.00	2.66	6.178	0					2.87
10.750	0.00	2.66	6.160	0					2.86
10.833	0.00	2.66	6.141	0					2.86
10.917	0.00	2.65	6.123	0					2.85
11.000	0.00	2.65	6.105	0					2.84
11.083	0.00	2.65	6.087	0					2.84
11.167	0.00	2.65	6.068	0					2.83
11.250	0.00	2.64	6.050	0					2.82
11.333	0.00	2.64	6.032	0					2.82
11.417	0.00	2.64	6.014	0					2.81
11.500	0.00	2.64	5.996	0					2.80
11.583	0.00	2.63	5.977	0					2.80
11.667	0.00	2.63	5.959	0					2.79
11.750	0.00	2.63	5.941	0					2.78
11.833	0.00	2.63	5.923	0					2.78
11.917	0.00	2.62	5.905	0					2.77
12.000	0.00	2.62	5.887	0					2.76
12.083	0.00	2.62	5.869	0					2.76
12.167	0.00	2.62	5.851	0					2.75
12.250	0.00	2.61	5.833	0					2.74
12.333	0.00	2.61	5.815	0					2.74
12.417	0.00	2.61	5.797	0					2.73
12.500	0.00	2.61	5.779	0					2.72
12.583	0.00	2.61	5.761	0					2.72
12.667	0.00	2.60	5.743	0					2.71
12.750	0.00	2.60	5.725	0					2.70
12.833	0.00	2.60	5.707	0					2.70
12.917	0.00	2.60	5.689	0					2.69
13.000	0.00	2.59	5.671	0					2.68
13.083	0.00	2.59	5.654	0					2.68
13.167	0.00	2.59	5.636	0					2.67
13.250	0.00	2.59	5.618	0					2.66
13.333	0.00	2.58	5.600	0					2.66
13.417	0.00	2.58	5.582	0					2.65
13.500	0.00	2.58	5.565	0					2.64
13.583	0.00	2.58	5.547	0					2.64
13.667	0.00	2.57	5.529	0					2.63
13.750	0.00	2.57	5.511	0					2.63
13.833	0.00	2.57	5.494	0					2.62
13.917	0.00	2.57	5.476	0					2.61
14.000	0.00	2.56	5.458	0					2.61
14.083	0.00	2.56	5.441	0					2.60
14.167	0.00	2.56	5.423	0					2.59
14.250	0.00	2.56	5.405	0					2.59
14.333	0.00	2.55	5.388	0					2.58
14.417	0.00	2.55	5.370	0					2.57
14.500	0.00	2.55	5.353	0					2.57
14.583	0.00	2.55	5.335	0					2.56
14.667	0.00	2.55	5.318	0					2.55
14.750	0.00	2.54	5.300	0					2.55
14.833	0.00	2.54	5.283	0					2.54
14.917	0.00	2.54	5.265	0					2.53
15.000	0.00	2.54	5.248	0					2.53
15.083	0.00	2.53	5.230	0					2.52

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	2.53	5.213	0					2.52
15.250	0.00	2.53	5.195	0					2.51
15.333	0.00	2.53	5.178	0					2.50
15.417	0.00	2.52	5.161	0					2.50
15.500	0.00	2.52	5.143	0					2.49
15.583	0.00	2.52	5.126	0					2.48
15.667	0.00	2.52	5.108	0					2.48
15.750	0.00	2.51	5.091	0					2.47
15.833	0.00	2.51	5.074	0					2.46
15.917	0.00	2.51	5.057	0					2.46
16.000	0.00	2.51	5.039	0					2.45
16.083	0.00	2.50	5.022	0					2.45
16.167	0.00	2.50	5.005	0					2.44
16.250	0.00	2.50	4.988	0					2.43
16.333	0.00	2.50	4.970	0					2.43
16.417	0.00	2.50	4.953	0					2.42
16.500	0.00	2.49	4.936	0					2.41
16.583	0.00	2.49	4.919	0					2.41
16.667	0.00	2.49	4.902	0					2.40
16.750	0.00	2.49	4.885	0					2.40
16.833	0.00	2.48	4.867	0					2.39
16.917	0.00	2.48	4.850	0					2.38
17.000	0.00	2.48	4.833	0					2.38
17.083	0.00	2.48	4.816	0					2.37
17.167	0.00	2.47	4.799	0					2.36
17.250	0.00	2.47	4.782	0					2.36
17.333	0.00	2.47	4.765	0					2.35
17.417	0.00	2.47	4.748	0					2.35
17.500	0.00	2.47	4.731	0					2.34
17.583	0.00	2.46	4.714	0					2.33
17.667	0.00	2.46	4.697	0					2.33
17.750	0.00	2.46	4.680	0					2.32
17.833	0.00	2.46	4.663	0					2.31
17.917	0.00	2.45	4.646	0					2.31
18.000	0.00	2.45	4.629	0					2.30
18.083	0.00	2.45	4.613	0					2.30
18.167	0.00	2.45	4.596	0					2.29
18.250	0.00	2.44	4.579	0					2.28
18.333	0.00	2.44	4.562	0					2.28
18.417	0.00	2.44	4.545	0					2.27
18.500	0.00	2.44	4.528	0					2.26
18.583	0.00	2.44	4.512	0					2.26
18.667	0.00	2.43	4.495	0					2.25
18.750	0.00	2.43	4.478	0					2.25
18.833	0.00	2.43	4.461	0					2.24
18.917	0.00	2.43	4.445	0					2.23
19.000	0.00	2.42	4.428	0					2.23
19.083	0.00	2.42	4.411	0					2.22
19.167	0.00	2.42	4.395	0					2.22
19.250	0.00	2.42	4.378	0					2.21
19.333	0.00	2.42	4.361	0					2.20
19.417	0.00	2.41	4.345	0					2.20
19.500	0.00	2.41	4.328	0					2.19
19.583	0.00	2.41	4.311	0					2.19
19.667	0.00	2.41	4.295	0					2.18
19.750	0.00	2.40	4.278	0					2.17
19.833	0.00	2.40	4.262	0					2.17
19.917	0.00	2.40	4.245	0					2.16
20.000	0.00	2.40	4.229	0					2.15
20.083	0.00	2.40	4.212	0					2.15
20.167	0.00	2.39	4.196	0					2.14
20.250	0.00	2.39	4.179	0					2.14
20.333	0.00	2.39	4.163	0					2.13

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.39	4.146	0					2.12
20.500	0.00	2.38	4.130	0					2.12
20.583	0.00	2.38	4.114	0					2.11
20.667	0.00	2.38	4.097	0					2.11
20.750	0.00	2.38	4.081	0					2.10
20.833	0.00	2.38	4.064	0					2.09
20.917	0.00	2.37	4.048	0					2.09
21.000	0.00	2.37	4.032	0					2.08
21.083	0.00	2.37	4.015	0					2.08
21.167	0.00	2.37	3.999	0					2.07
21.250	0.00	2.36	3.983	0					2.06
21.333	0.00	2.36	3.967	0					2.06
21.417	0.00	2.36	3.950	0					2.05
21.500	0.00	2.36	3.934	0					2.05
21.583	0.00	2.36	3.918	0					2.04
21.667	0.00	2.35	3.902	0					2.04
21.750	0.00	2.35	3.885	0					2.03
21.833	0.00	2.35	3.869	0					2.02
21.917	0.00	2.35	3.853	0					2.02
22.000	0.00	2.34	3.837	0					2.01
22.083	0.00	2.34	3.821	0					2.01
22.167	0.00	2.34	3.805	0					2.00
22.250	0.00	2.34	3.789	0					1.99
22.333	0.00	2.33	3.772	0					1.98
22.417	0.00	2.33	3.756	0					1.98
22.500	0.00	2.33	3.740	0					1.97
22.583	0.00	2.32	3.724	0					1.96
22.667	0.00	2.32	3.708	0					1.95
22.750	0.00	2.32	3.692	0					1.95
22.833	0.00	2.31	3.676	0					1.94
22.917	0.00	2.31	3.661	0					1.93
23.000	0.00	2.31	3.645	0					1.92
23.083	0.00	2.30	3.629	0					1.92
23.167	0.00	2.30	3.613	0					1.91
23.250	0.00	2.30	3.597	0					1.90
23.333	0.00	2.29	3.581	0					1.89
23.417	0.00	2.29	3.565	0					1.89
23.500	0.00	2.29	3.550	0					1.88
23.583	0.00	2.28	3.534	0					1.87
23.667	0.00	2.28	3.518	0					1.86
23.750	0.00	2.28	3.503	0					1.86
23.833	0.00	2.28	3.487	0					1.85
23.917	0.00	2.27	3.471	0					1.84
24.000	0.00	2.27	3.456	0					1.83
24.083	0.00	2.27	3.440	0					1.83
24.167	0.00	2.26	3.424	0					1.82
24.250	0.00	2.26	3.409	0					1.81
24.333	0.00	2.26	3.393	0					1.80
24.417	0.00	2.25	3.378	0					1.80
24.500	0.00	2.25	3.362	0					1.79
24.583	0.00	2.25	3.347	0					1.78
24.667	0.00	2.24	3.331	0					1.78
24.750	0.00	2.24	3.316	0					1.77
24.833	0.00	2.24	3.300	0					1.76
24.917	0.00	2.23	3.285	0					1.75
25.000	0.00	2.23	3.270	0					1.75
25.083	0.00	2.23	3.254	0					1.74
25.167	0.00	2.22	3.239	0					1.73
25.250	0.00	2.22	3.224	0					1.72
25.333	0.00	2.22	3.208	0					1.72
25.417	0.00	2.22	3.193	0					1.71
25.500	0.00	2.21	3.178	0					1.70
25.583	0.00	2.21	3.163	0					1.70



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.21	3.147	0					1.69
25.750	0.00	2.20	3.132	0					1.68
25.833	0.00	2.20	3.117	0					1.67
25.917	0.00	2.20	3.102	0					1.67
26.000	0.00	2.19	3.087	0					1.66
26.083	0.00	2.19	3.072	0					1.65
26.167	0.00	2.19	3.057	0					1.65
26.250	0.00	2.18	3.042	0					1.64
26.333	0.00	2.18	3.027	0					1.63
26.417	0.00	2.18	3.012	0					1.62
26.500	0.00	2.18	2.997	0					1.62
26.583	0.00	2.17	2.982	0					1.61
26.667	0.00	2.17	2.967	0					1.60
26.750	0.00	2.17	2.952	0					1.60
26.833	0.00	2.16	2.937	0					1.59
26.917	0.00	2.16	2.922	0					1.58
27.000	0.00	2.16	2.907	0					1.57
27.083	0.00	2.15	2.892	0					1.57
27.167	0.00	2.15	2.877	0					1.56
27.250	0.00	2.15	2.863	0					1.55
27.333	0.00	2.14	2.848	0					1.55
27.417	0.00	2.14	2.833	0					1.54
27.500	0.00	2.14	2.818	0					1.53
27.583	0.00	2.14	2.804	0					1.53
27.667	0.00	2.13	2.789	0					1.52
27.750	0.00	2.13	2.774	0					1.51
27.833	0.00	2.13	2.759	0					1.50
27.917	0.00	2.12	2.745	0					1.50
28.000	0.00	2.12	2.730	0					1.49
28.083	0.00	2.12	2.716	0					1.48
28.167	0.00	2.12	2.701	0					1.48
28.250	0.00	2.11	2.686	0					1.47
28.333	0.00	2.11	2.672	0					1.46
28.417	0.00	2.11	2.657	0					1.46
28.500	0.00	2.10	2.643	0					1.45
28.583	0.00	2.10	2.628	0					1.44
28.667	0.00	2.10	2.614	0					1.44
28.750	0.00	2.09	2.600	0					1.43
28.833	0.00	2.09	2.585	0					1.42
28.917	0.00	2.09	2.571	0					1.42
29.000	0.00	2.09	2.556	0					1.41
29.083	0.00	2.08	2.542	0					1.40
29.167	0.00	2.08	2.528	0					1.40
29.250	0.00	2.08	2.513	0					1.39
29.333	0.00	2.07	2.499	0					1.38
29.417	0.00	2.07	2.485	0					1.37
29.500	0.00	2.07	2.471	0					1.37
29.583	0.00	2.07	2.456	0					1.36
29.667	0.00	2.06	2.442	0					1.35
29.750	0.00	2.06	2.428	0					1.35
29.833	0.00	2.06	2.414	0					1.34
29.917	0.00	2.05	2.400	0					1.33
30.000	0.00	2.05	2.385	0					1.33
30.083	0.00	2.05	2.371	0					1.32
30.167	0.00	2.05	2.357	0					1.31
30.250	0.00	2.04	2.343	0					1.31
30.333	0.00	2.04	2.329	0					1.30
30.417	0.00	2.04	2.315	0					1.29
30.500	0.00	2.03	2.301	0					1.29
30.583	0.00	2.03	2.287	0					1.28
30.667	0.00	2.03	2.273	0					1.27
30.750	0.00	2.03	2.259	0					1.27
30.833	0.00	2.02	2.245	0					1.26

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

30.917	0.00	2.02	2.231	0					1.25
31.000	0.00	2.02	2.217	0					1.25
31.083	0.00	2.01	2.204	0					1.24
31.167	0.00	2.01	2.190	0					1.24
31.250	0.00	2.01	2.176	0					1.23
31.333	0.00	2.01	2.162	0					1.22
31.417	0.00	2.00	2.148	0					1.22
31.500	0.00	2.00	2.134	0					1.21
31.583	0.00	2.00	2.121	0					1.20
31.667	0.00	1.99	2.107	0					1.20
31.750	0.00	1.99	2.093	0					1.19
31.833	0.00	1.99	2.079	0					1.18
31.917	0.00	1.99	2.066	0					1.18
32.000	0.00	1.98	2.052	0					1.17
32.083	0.00	1.98	2.038	0					1.16
32.167	0.00	1.98	2.025	0					1.16
32.250	0.00	1.97	2.011	0					1.15
32.333	0.00	1.97	1.998	0					1.14
32.417	0.00	1.97	1.984	0					1.14
32.500	0.00	1.97	1.971	0					1.13
32.583	0.00	1.96	1.957	0					1.12
32.667	0.00	1.96	1.943	0					1.12
32.750	0.00	1.96	1.930	0					1.11
32.833	0.00	1.96	1.916	0					1.11
32.917	0.00	1.95	1.903	0					1.10
33.000	0.00	1.95	1.890	0					1.09
33.083	0.00	1.95	1.876	0					1.09
33.167	0.00	1.94	1.863	0					1.08
33.250	0.00	1.94	1.849	0					1.07
33.333	0.00	1.94	1.836	0					1.07
33.417	0.00	1.94	1.823	0					1.06
33.500	0.00	1.93	1.809	0					1.06
33.583	0.00	1.93	1.796	0					1.05
33.667	0.00	1.93	1.783	0					1.04
33.750	0.00	1.93	1.769	0					1.04
33.833	0.00	1.92	1.756	0					1.03
33.917	0.00	1.92	1.743	0					1.02
34.000	0.00	1.92	1.730	0					1.02
34.083	0.00	1.91	1.717	0					1.01
34.167	0.00	1.91	1.703	0					1.00
34.250	0.00	1.91	1.690	0					1.00
34.333	0.00	1.89	1.677	0					0.99
34.417	0.00	1.88	1.664	0					0.98
34.500	0.00	1.86	1.651	0					0.98
34.583	0.00	1.85	1.639	0					0.97
34.667	0.00	1.83	1.626	0					0.96
34.750	0.00	1.82	1.613	0					0.95
34.833	0.00	1.81	1.601	0					0.95
34.917	0.00	1.79	1.588	0					0.94
35.000	0.00	1.78	1.576	0					0.93
35.083	0.00	1.76	1.564	0					0.92
35.167	0.00	1.75	1.552	0					0.92
35.250	0.00	1.74	1.540	0					0.91
35.333	0.00	1.72	1.528	0					0.90
35.417	0.00	1.71	1.516	0					0.90
35.500	0.00	1.70	1.504	0					0.89
35.583	0.00	1.68	1.493	0					0.88
35.667	0.00	1.67	1.481	0					0.87
35.750	0.00	1.66	1.470	0					0.87
35.833	0.00	1.65	1.458	0					0.86
35.917	0.00	1.63	1.447	0					0.85
36.000	0.00	1.62	1.436	0					0.85
36.083	0.00	1.61	1.425	0					0.84

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	1.59	1.414	0					0.83
36.250	0.00	1.58	1.403	0					0.83
36.333	0.00	1.57	1.392	0					0.82
36.417	0.00	1.56	1.381	0					0.82
36.500	0.00	1.55	1.370	0					0.81
36.583	0.00	1.53	1.360	0					0.80
36.667	0.00	1.52	1.349	0					0.80
36.750	0.00	1.51	1.339	0					0.79
36.833	0.00	1.50	1.328	0					0.78
36.917	0.00	1.49	1.318	0					0.78
37.000	0.00	1.48	1.308	0					0.77
37.083	0.00	1.46	1.298	0					0.77
37.167	0.00	1.45	1.288	0					0.76
37.250	0.00	1.44	1.278	0					0.75
37.333	0.00	1.43	1.268	0					0.75
37.417	0.00	1.42	1.258	0					0.74
37.500	0.00	1.41	1.248	0					0.74
37.583	0.00	1.40	1.239	0					0.73
37.667	0.00	1.39	1.229	0					0.73
37.750	0.00	1.38	1.220	0					0.72
37.833	0.00	1.37	1.210	0					0.71
37.917	0.00	1.35	1.201	0					0.71
38.000	0.00	1.34	1.192	0					0.70
38.083	0.00	1.33	1.182	0					0.70
38.167	0.00	1.32	1.173	0					0.69
38.250	0.00	1.31	1.164	0					0.69
38.333	0.00	1.30	1.155	0					0.68
38.417	0.00	1.29	1.146	0					0.68
38.500	0.00	1.28	1.137	0					0.67
38.583	0.00	1.27	1.128	0					0.67
38.667	0.00	1.26	1.120	0					0.66
38.750	0.00	1.25	1.111	0					0.66
38.833	0.00	1.24	1.102	0					0.65
38.917	0.00	1.23	1.094	0					0.65
39.000	0.00	1.22	1.085	0					0.64
39.083	0.00	1.22	1.077	0					0.64
39.167	0.00	1.21	1.069	0					0.63
39.250	0.00	1.20	1.060	0					0.63
39.333	0.00	1.19	1.052	0					0.62
39.417	0.00	1.18	1.044	0					0.62
39.500	0.00	1.17	1.036	0					0.61
39.583	0.00	1.16	1.028	0					0.61
39.667	0.00	1.15	1.020	0					0.60
39.750	0.00	1.14	1.012	0					0.60
39.833	0.00	1.13	1.004	0					0.59
39.917	0.00	1.12	0.997	0					0.59
40.000	0.00	1.12	0.989	0					0.58
40.083	0.00	1.11	0.981	0					0.58
40.167	0.00	1.10	0.974	0					0.58
40.250	0.00	1.09	0.966	0					0.57
40.333	0.00	1.08	0.959	0					0.57
40.417	0.00	1.07	0.951	0					0.56
40.500	0.00	1.06	0.944	0					0.56
40.583	0.00	1.06	0.936	0					0.55
40.667	0.00	1.05	0.929	0					0.55
40.750	0.00	1.04	0.922	0					0.54
40.833	0.00	1.03	0.915	0					0.54
40.917	0.00	1.02	0.908	0					0.54
41.000	0.00	1.02	0.901	0					0.53
41.083	0.00	1.01	0.894	0					0.53
41.167	0.00	1.00	0.887	0					0.52
41.250	0.00	0.99	0.880	0					0.52
41.333	0.00	0.99	0.873	0					0.52

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	0.98	0.866	0					0.51
41.500	0.00	0.97	0.860	0					0.51
41.583	0.00	0.96	0.853	0					0.50
41.667	0.00	0.96	0.847	0					0.50
41.750	0.00	0.95	0.840	0					0.50
41.833	0.00	0.94	0.833	0					0.49
41.917	0.00	0.93	0.827	0					0.49
42.000	0.00	0.93	0.821	0					0.48
42.083	0.00	0.92	0.814	0					0.48
42.167	0.00	0.91	0.808	0					0.48
42.250	0.00	0.90	0.802	0					0.47
42.333	0.00	0.90	0.795	0					0.47
42.417	0.00	0.89	0.789	0					0.47
42.500	0.00	0.88	0.783	0					0.46
42.583	0.00	0.88	0.777	0					0.46
42.667	0.00	0.87	0.771	0					0.46
42.750	0.00	0.86	0.765	0					0.45
42.833	0.00	0.86	0.759	0					0.45
42.917	0.00	0.85	0.753	0					0.44
43.000	0.00	0.84	0.748	0					0.44
43.083	0.00	0.84	0.742	0					0.44
43.167	0.00	0.83	0.736	0					0.43
43.250	0.00	0.82	0.730	0					0.43
43.333	0.00	0.82	0.725	0					0.43
43.417	0.00	0.81	0.719	0					0.42
43.500	0.00	0.80	0.714	0					0.42
43.583	0.00	0.80	0.708	0					0.42
43.667	0.00	0.79	0.702	0					0.41
43.750	0.00	0.79	0.697	0					0.41
43.833	0.00	0.78	0.692	0					0.41
43.917	0.00	0.77	0.686	0					0.41
44.000	0.00	0.77	0.681	0					0.40
44.083	0.00	0.76	0.676	0					0.40
44.167	0.00	0.76	0.671	0					0.40
44.250	0.00	0.75	0.665	0					0.39
44.333	0.00	0.74	0.660	0					0.39
44.417	0.00	0.74	0.655	0					0.39
44.500	0.00	0.73	0.650	0					0.38
44.583	0.00	0.73	0.645	0					0.38
44.667	0.00	0.72	0.640	0					0.38
44.750	0.00	0.72	0.635	0					0.38
44.833	0.00	0.71	0.630	0					0.37
44.917	0.00	0.71	0.625	0					0.37
45.000	0.00	0.70	0.620	0					0.37
45.083	0.00	0.69	0.616	0					0.36
45.167	0.00	0.69	0.611	0					0.36
45.250	0.00	0.68	0.606	0					0.36
45.333	0.00	0.68	0.601	0					0.36
45.417	0.00	0.67	0.597	0					0.35
45.500	0.00	0.67	0.592	0					0.35
45.583	0.00	0.66	0.588	0					0.35
45.667	0.00	0.66	0.583	0					0.34
45.750	0.00	0.65	0.578	0					0.34
45.833	0.00	0.65	0.574	0					0.34
45.917	0.00	0.64	0.570	0					0.34
46.000	0.00	0.64	0.565	0					0.33
46.083	0.00	0.63	0.561	0					0.33
46.167	0.00	0.63	0.556	0					0.33
46.250	0.00	0.62	0.552	0					0.33
46.333	0.00	0.62	0.548	0					0.32
46.417	0.00	0.61	0.544	0					0.32
46.500	0.00	0.61	0.539	0					0.32
46.583	0.00	0.60	0.535	0					0.32

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	0.60	0.531	o					0.31
46.750	0.00	0.59	0.527	o					0.31
46.833	0.00	0.59	0.523	o					0.31
46.917	0.00	0.59	0.519	o					0.31
47.000	0.00	0.58	0.515	o					0.30
47.083	0.00	0.58	0.511	o					0.30
47.167	0.00	0.57	0.507	o					0.30
47.250	0.00	0.57	0.503	o					0.30
47.333	0.00	0.56	0.499	o					0.29
47.417	0.00	0.56	0.495	o					0.29
47.500	0.00	0.55	0.491	o					0.29
47.583	0.00	0.55	0.488	o					0.29
47.667	0.00	0.55	0.484	o					0.29
47.750	0.00	0.54	0.480	o					0.28
47.833	0.00	0.54	0.476	o					0.28
47.917	0.00	0.53	0.473	o					0.28
48.000	0.00	0.53	0.469	o					0.28
48.083	0.00	0.53	0.465	o					0.27
48.167	0.00	0.52	0.462	o					0.27
48.250	0.00	0.52	0.458	o					0.27
48.333	0.00	0.51	0.455	o					0.27
48.417	0.00	0.51	0.451	o					0.27
48.500	0.00	0.51	0.448	o					0.26
48.583	0.00	0.50	0.444	o					0.26
48.667	0.00	0.50	0.441	o					0.26
48.750	0.00	0.49	0.437	o					0.26
48.833	0.00	0.49	0.434	o					0.26
48.917	0.00	0.49	0.431	o					0.25
49.000	0.00	0.48	0.427	o					0.25
49.083	0.00	0.48	0.424	o					0.25
49.167	0.00	0.47	0.421	o					0.25
49.250	0.00	0.47	0.417	o					0.25
49.333	0.00	0.47	0.414	o					0.24
49.417	0.00	0.46	0.411	o					0.24
49.500	0.00	0.46	0.408	o					0.24
49.583	0.00	0.46	0.405	o					0.24
49.667	0.00	0.45	0.402	o					0.24
49.750	0.00	0.45	0.398	o					0.24
49.833	0.00	0.45	0.395	o					0.23
49.917	0.00	0.44	0.392	o					0.23
50.000	0.00	0.44	0.389	o					0.23
50.083	0.00	0.44	0.386	o					0.23
50.167	0.00	0.43	0.383	o					0.23
50.250	0.00	0.43	0.380	o					0.22
50.333	0.00	0.43	0.377	o					0.22
50.417	0.00	0.42	0.374	o					0.22
50.500	0.00	0.42	0.371	o					0.22
50.583	0.00	0.42	0.369	o					0.22
50.667	0.00	0.41	0.366	o					0.22
50.750	0.00	0.41	0.363	o					0.21
50.833	0.00	0.41	0.360	o					0.21
50.917	0.00	0.40	0.357	o					0.21
51.000	0.00	0.40	0.355	o					0.21
51.083	0.00	0.40	0.352	o					0.21
51.167	0.00	0.39	0.349	o					0.21
51.250	0.00	0.39	0.346	o					0.20
51.333	0.00	0.39	0.344	o					0.20
51.417	0.00	0.38	0.341	o					0.20
51.500	0.00	0.38	0.338	o					0.20
51.583	0.00	0.38	0.336	o					0.20
51.667	0.00	0.38	0.333	o					0.20
51.750	0.00	0.37	0.331	o					0.20
51.833	0.00	0.37	0.328	o					0.19

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.37	0.326	0					0.19
52.000	0.00	0.36	0.323	0					0.19
52.083	0.00	0.36	0.321	0					0.19
52.167	0.00	0.36	0.318	0					0.19
52.250	0.00	0.36	0.316	0					0.19
52.333	0.00	0.35	0.313	0					0.18
52.417	0.00	0.35	0.311	0					0.18
52.500	0.00	0.35	0.308	0					0.18
52.583	0.00	0.35	0.306	0					0.18
52.667	0.00	0.34	0.304	0					0.18
52.750	0.00	0.34	0.301	0					0.18
52.833	0.00	0.34	0.299	0					0.18
52.917	0.00	0.33	0.297	0					0.18
53.000	0.00	0.33	0.294	0					0.17
53.083	0.00	0.33	0.292	0					0.17
53.167	0.00	0.33	0.290	0					0.17
53.250	0.00	0.32	0.287	0					0.17
53.333	0.00	0.32	0.285	0					0.17
53.417	0.00	0.32	0.283	0					0.17
53.500	0.00	0.32	0.281	0					0.17
53.583	0.00	0.31	0.279	0					0.16
53.667	0.00	0.31	0.277	0					0.16
53.750	0.00	0.31	0.274	0					0.16
53.833	0.00	0.31	0.272	0					0.16
53.917	0.00	0.30	0.270	0					0.16
54.000	0.00	0.30	0.268	0					0.16
54.083	0.00	0.30	0.266	0					0.16
54.167	0.00	0.30	0.264	0					0.16
54.250	0.00	0.30	0.262	0					0.15
54.333	0.00	0.29	0.260	0					0.15
54.417	0.00	0.29	0.258	0					0.15
54.500	0.00	0.29	0.256	0					0.15
54.583	0.00	0.29	0.254	0					0.15
54.667	0.00	0.28	0.252	0					0.15
54.750	0.00	0.28	0.250	0					0.15
54.833	0.00	0.28	0.248	0					0.15
54.917	0.00	0.28	0.246	0					0.15
55.000	0.00	0.28	0.244	0					0.14
55.083	0.00	0.27	0.242	0					0.14
55.167	0.00	0.27	0.240	0					0.14
55.250	0.00	0.27	0.239	0					0.14
55.333	0.00	0.27	0.237	0					0.14
55.417	0.00	0.26	0.235	0					0.14
55.500	0.00	0.26	0.233	0					0.14
55.583	0.00	0.26	0.231	0					0.14
55.667	0.00	0.26	0.229	0					0.14
55.750	0.00	0.26	0.228	0					0.13
55.833	0.00	0.25	0.226	0					0.13
55.917	0.00	0.25	0.224	0					0.13
56.000	0.00	0.25	0.222	0					0.13
56.083	0.00	0.25	0.221	0					0.13
56.167	0.00	0.25	0.219	0					0.13
56.250	0.00	0.25	0.217	0					0.13
56.333	0.00	0.24	0.216	0					0.13
56.417	0.00	0.24	0.214	0					0.13
56.500	0.00	0.24	0.212	0					0.13
56.583	0.00	0.24	0.211	0					0.12
56.667	0.00	0.24	0.209	0					0.12
56.750	0.00	0.23	0.207	0					0.12
56.833	0.00	0.23	0.206	0					0.12
56.917	0.00	0.23	0.204	0					0.12
57.000	0.00	0.23	0.203	0					0.12
57.083	0.00	0.23	0.201	0					0.12

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

57.167	0.00	0.23	0.200	o					0.12
57.250	0.00	0.22	0.198	o					0.12
57.333	0.00	0.22	0.196	o					0.12
57.417	0.00	0.22	0.195	o					0.12
57.500	0.00	0.22	0.193	o					0.11
57.583	0.00	0.22	0.192	o					0.11
57.667	0.00	0.21	0.190	o					0.11
57.750	0.00	0.21	0.189	o					0.11
57.833	0.00	0.21	0.187	o					0.11
57.917	0.00	0.21	0.186	o					0.11
58.000	0.00	0.21	0.185	o					0.11
58.083	0.00	0.21	0.183	o					0.11
58.167	0.00	0.21	0.182	o					0.11
58.250	0.00	0.20	0.180	o					0.11
58.333	0.00	0.20	0.179	o					0.11
58.417	0.00	0.20	0.178	o					0.10
58.500	0.00	0.20	0.176	o					0.10
58.583	0.00	0.20	0.175	o					0.10
58.667	0.00	0.20	0.173	o					0.10
58.750	0.00	0.19	0.172	o					0.10
58.833	0.00	0.19	0.171	o					0.10
58.917	0.00	0.19	0.169	o					0.10
59.000	0.00	0.19	0.168	o					0.10
59.083	0.00	0.19	0.167	o					0.10
59.167	0.00	0.19	0.166	o					0.10
59.250	0.00	0.19	0.164	o					0.10
59.333	0.00	0.18	0.163	o					0.10
59.417	0.00	0.18	0.162	o					0.10
59.500	0.00	0.18	0.161	o					0.09
59.583	0.00	0.18	0.159	o					0.09
59.667	0.00	0.18	0.158	o					0.09
59.750	0.00	0.18	0.157	o					0.09
59.833	0.00	0.18	0.156	o					0.09
59.917	0.00	0.17	0.154	o					0.09
60.000	0.00	0.17	0.153	o					0.09
60.083	0.00	0.17	0.152	o					0.09
60.167	0.00	0.17	0.151	o					0.09
60.250	0.00	0.17	0.150	o					0.09
60.333	0.00	0.17	0.149	o					0.09
60.417	0.00	0.17	0.147	o					0.09
60.500	0.00	0.16	0.146	o					0.09
60.583	0.00	0.16	0.145	o					0.09
60.667	0.00	0.16	0.144	o					0.09
60.750	0.00	0.16	0.143	o					0.08
60.833	0.00	0.16	0.142	o					0.08
60.917	0.00	0.16	0.141	o					0.08
61.000	0.00	0.16	0.140	o					0.08
61.083	0.00	0.16	0.138	o					0.08
61.167	0.00	0.16	0.137	o					0.08
61.250	0.00	0.15	0.136	o					0.08
61.333	0.00	0.15	0.135	o					0.08
61.417	0.00	0.15	0.134	o					0.08
61.500	0.00	0.15	0.133	o					0.08
61.583	0.00	0.15	0.132	o					0.08
61.667	0.00	0.15	0.131	o					0.08
61.750	0.00	0.15	0.130	o					0.08
61.833	0.00	0.15	0.129	o					0.08
61.917	0.00	0.14	0.128	o					0.08
62.000	0.00	0.14	0.127	o					0.08
62.083	0.00	0.14	0.126	o					0.07
62.167	0.00	0.14	0.125	o					0.07
62.250	0.00	0.14	0.124	o					0.07
62.333	0.00	0.14	0.123	o					0.07

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.14	0.122	o					0.07
62.500	0.00	0.14	0.121	o					0.07
62.583	0.00	0.14	0.120	o					0.07
62.667	0.00	0.13	0.119	o					0.07
62.750	0.00	0.13	0.119	o					0.07
62.833	0.00	0.13	0.118	o					0.07
62.917	0.00	0.13	0.117	o					0.07
63.000	0.00	0.13	0.116	o					0.07
63.083	0.00	0.13	0.115	o					0.07
63.167	0.00	0.13	0.114	o					0.07
63.250	0.00	0.13	0.113	o					0.07
63.333	0.00	0.13	0.112	o					0.07
63.417	0.00	0.13	0.111	o					0.07
63.500	0.00	0.12	0.111	o					0.07
63.583	0.00	0.12	0.110	o					0.06
63.667	0.00	0.12	0.109	o					0.06
63.750	0.00	0.12	0.108	o					0.06
63.833	0.00	0.12	0.107	o					0.06
63.917	0.00	0.12	0.106	o					0.06
64.000	0.00	0.12	0.106	o					0.06
64.083	0.00	0.12	0.105	o					0.06
64.167	0.00	0.12	0.104	o					0.06
64.250	0.00	0.12	0.103	o					0.06
64.333	0.00	0.12	0.102	o					0.06
64.417	0.00	0.11	0.101	o					0.06
64.500	0.00	0.11	0.101	o					0.06
64.583	0.00	0.11	0.100	o					0.06
64.667	0.00	0.11	0.099	o					0.06
64.750	0.00	0.11	0.098	o					0.06
64.833	0.00	0.11	0.098	o					0.06
64.917	0.00	0.11	0.097	o					0.06
65.000	0.00	0.11	0.096	o					0.06
65.083	0.00	0.11	0.095	o					0.06
65.167	0.00	0.11	0.095	o					0.06
65.250	0.00	0.11	0.094	o					0.06
65.333	0.00	0.11	0.093	o					0.06
65.417	0.00	0.10	0.092	o					0.05
65.500	0.00	0.10	0.092	o					0.05
65.583	0.00	0.10	0.091	o					0.05
65.667	0.00	0.10	0.090	o					0.05
65.750	0.00	0.10	0.090	o					0.05
65.833	0.00	0.10	0.089	o					0.05
65.917	0.00	0.10	0.088	o					0.05
66.000	0.00	0.10	0.088	o					0.05
66.083	0.00	0.10	0.087	o					0.05
66.167	0.00	0.10	0.086	o					0.05
66.250	0.00	0.10	0.086	o					0.05
66.333	0.00	0.10	0.085	o					0.05
66.417	0.00	0.10	0.084	o					0.05
66.500	0.00	0.09	0.084	o					0.05
66.583	0.00	0.09	0.083	o					0.05
66.667	0.00	0.09	0.082	o					0.05
66.750	0.00	0.09	0.082	o					0.05
66.833	0.00	0.09	0.081	o					0.05
66.917	0.00	0.09	0.080	o					0.05
67.000	0.00	0.09	0.080	o					0.05
67.083	0.00	0.09	0.079	o					0.05
67.167	0.00	0.09	0.079	o					0.05
67.250	0.00	0.09	0.078	o					0.05
67.333	0.00	0.09	0.077	o					0.05
67.417	0.00	0.09	0.077	o					0.05
67.500	0.00	0.09	0.076	o					0.04
67.583	0.00	0.09	0.076	o					0.04



Keller Crossing – Tract 38163  
ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.08	0.075	0					0.04
67.750	0.00	0.08	0.074	0					0.04
67.833	0.00	0.08	0.074	0					0.04
67.917	0.00	0.08	0.073	0					0.04
68.000	0.00	0.08	0.073	0					0.04
68.083	0.00	0.08	0.072	0					0.04
68.167	0.00	0.08	0.072	0					0.04
68.250	0.00	0.08	0.071	0					0.04
68.333	0.00	0.08	0.070	0					0.04
68.417	0.00	0.08	0.070	0					0.04
68.500	0.00	0.08	0.069	0					0.04
68.583	0.00	0.08	0.069	0					0.04
68.667	0.00	0.08	0.068	0					0.04
68.750	0.00	0.08	0.068	0					0.04
68.833	0.00	0.08	0.067	0					0.04
68.917	0.00	0.08	0.067	0					0.04
69.000	0.00	0.07	0.066	0					0.04
69.083	0.00	0.07	0.066	0					0.04
69.167	0.00	0.07	0.065	0					0.04
69.250	0.00	0.07	0.065	0					0.04
69.333	0.00	0.07	0.064	0					0.04
69.417	0.00	0.07	0.064	0					0.04
69.500	0.00	0.07	0.063	0					0.04
69.583	0.00	0.07	0.063	0					0.04
69.667	0.00	0.07	0.062	0					0.04
69.750	0.00	0.07	0.062	0					0.04
69.833	0.00	0.07	0.061	0					0.04
69.917	0.00	0.07	0.061	0					0.04
70.000	0.00	0.07	0.060	0					0.04
70.083	0.00	0.07	0.060	0					0.04
70.167	0.00	0.07	0.059	0					0.04
70.250	0.00	0.07	0.059	0					0.03
70.333	0.00	0.07	0.058	0					0.03
70.417	0.00	0.07	0.058	0					0.03
70.500	0.00	0.06	0.058	0					0.03
70.583	0.00	0.06	0.057	0					0.03
70.667	0.00	0.06	0.057	0					0.03
70.750	0.00	0.06	0.056	0					0.03
70.833	0.00	0.06	0.056	0					0.03
70.917	0.00	0.06	0.055	0					0.03
71.000	0.00	0.06	0.055	0					0.03
71.083	0.00	0.06	0.055	0					0.03
71.167	0.00	0.06	0.054	0					0.03
71.250	0.00	0.06	0.054	0					0.03
71.333	0.00	0.06	0.053	0					0.03
71.417	0.00	0.06	0.053	0					0.03
71.500	0.00	0.06	0.052	0					0.03
71.583	0.00	0.06	0.052	0					0.03
71.667	0.00	0.06	0.052	0					0.03
71.750	0.00	0.06	0.051	0					0.03
71.833	0.00	0.06	0.051	0					0.03
71.917	0.00	0.06	0.050	0					0.03
72.000	0.00	0.06	0.050	0					0.03
72.083	0.00	0.06	0.050	0					0.03
72.167	0.00	0.06	0.049	0					0.03
72.250	0.00	0.06	0.049	0					0.03
72.333	0.00	0.05	0.049	0					0.03
72.417	0.00	0.05	0.048	0					0.03
72.500	0.00	0.05	0.048	0					0.03
72.583	0.00	0.05	0.047	0					0.03
72.667	0.00	0.05	0.047	0					0.03
72.750	0.00	0.05	0.047	0					0.03
72.833	0.00	0.05	0.046	0					0.03

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## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.05	0.046	o					0.03
73.000	0.00	0.05	0.046	o					0.03
73.083	0.00	0.05	0.045	o					0.03
73.167	0.00	0.05	0.045	o					0.03
73.250	0.00	0.05	0.045	o					0.03
73.333	0.00	0.05	0.044	o					0.03
73.417	0.00	0.05	0.044	o					0.03
73.500	0.00	0.05	0.044	o					0.03
73.583	0.00	0.05	0.043	o					0.03
73.667	0.00	0.05	0.043	o					0.03
73.750	0.00	0.05	0.043	o					0.03
73.833	0.00	0.05	0.042	o					0.02
73.917	0.00	0.05	0.042	o					0.02
74.000	0.00	0.05	0.042	o					0.02
74.083	0.00	0.05	0.041	o					0.02
74.167	0.00	0.05	0.041	o					0.02
74.250	0.00	0.05	0.041	o					0.02
74.333	0.00	0.05	0.040	o					0.02
74.417	0.00	0.05	0.040	o					0.02
74.500	0.00	0.04	0.040	o					0.02
74.583	0.00	0.04	0.039	o					0.02
74.667	0.00	0.04	0.039	o					0.02
74.750	0.00	0.04	0.039	o					0.02
74.833	0.00	0.04	0.038	o					0.02
74.917	0.00	0.04	0.038	o					0.02
75.000	0.00	0.04	0.038	o					0.02
75.083	0.00	0.04	0.038	o					0.02
75.167	0.00	0.04	0.037	o					0.02
75.250	0.00	0.04	0.037	o					0.02
75.333	0.00	0.04	0.037	o					0.02
75.417	0.00	0.04	0.036	o					0.02
75.500	0.00	0.04	0.036	o					0.02
75.583	0.00	0.04	0.036	o					0.02
75.667	0.00	0.04	0.036	o					0.02
75.750	0.00	0.04	0.035	o					0.02
75.833	0.00	0.04	0.035	o					0.02
75.917	0.00	0.04	0.035	o					0.02
76.000	0.00	0.04	0.034	o					0.02
76.083	0.00	0.04	0.034	o					0.02
76.167	0.00	0.04	0.034	o					0.02
76.250	0.00	0.04	0.034	o					0.02
76.333	0.00	0.04	0.033	o					0.02
76.417	0.00	0.04	0.033	o					0.02
76.500	0.00	0.04	0.033	o					0.02
76.583	0.00	0.04	0.033	o					0.02
76.667	0.00	0.04	0.032	o					0.02
76.750	0.00	0.04	0.032	o					0.02
76.833	0.00	0.04	0.032	o					0.02
76.917	0.00	0.04	0.032	o					0.02
77.000	0.00	0.04	0.031	o					0.02
77.083	0.00	0.04	0.031	o					0.02
77.167	0.00	0.03	0.031	o					0.02
77.250	0.00	0.03	0.031	o					0.02
77.333	0.00	0.03	0.030	o					0.02
77.417	0.00	0.03	0.030	o					0.02
77.500	0.00	0.03	0.030	o					0.02
77.583	0.00	0.03	0.030	o					0.02
77.667	0.00	0.03	0.030	o					0.02
77.750	0.00	0.03	0.029	o					0.02
77.833	0.00	0.03	0.029	o					0.02
77.917	0.00	0.03	0.029	o					0.02
78.000	0.00	0.03	0.029	o					0.02
78.083	0.00	0.03	0.028	o					0.02

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

78.167	0.00	0.03	0.028	o					0.02
78.250	0.00	0.03	0.028	o					0.02
78.333	0.00	0.03	0.028	o					0.02
78.417	0.00	0.03	0.028	o					0.02
78.500	0.00	0.03	0.027	o					0.02
78.583	0.00	0.03	0.027	o					0.02
78.667	0.00	0.03	0.027	o					0.02
78.750	0.00	0.03	0.027	o					0.02
78.833	0.00	0.03	0.026	o					0.02
78.917	0.00	0.03	0.026	o					0.02
79.000	0.00	0.03	0.026	o					0.02
79.083	0.00	0.03	0.026	o					0.02
79.167	0.00	0.03	0.026	o					0.02
79.250	0.00	0.03	0.025	o					0.02
79.333	0.00	0.03	0.025	o					0.01
79.417	0.00	0.03	0.025	o					0.01
79.500	0.00	0.03	0.025	o					0.01
79.583	0.00	0.03	0.025	o					0.01
79.667	0.00	0.03	0.024	o					0.01
79.750	0.00	0.03	0.024	o					0.01
79.833	0.00	0.03	0.024	o					0.01
79.917	0.00	0.03	0.024	o					0.01
80.000	0.00	0.03	0.024	o					0.01
80.083	0.00	0.03	0.024	o					0.01
80.167	0.00	0.03	0.023	o					0.01
80.250	0.00	0.03	0.023	o					0.01
80.333	0.00	0.03	0.023	o					0.01
80.417	0.00	0.03	0.023	o					0.01
80.500	0.00	0.03	0.023	o					0.01
80.583	0.00	0.03	0.022	o					0.01
80.667	0.00	0.03	0.022	o					0.01
80.750	0.00	0.02	0.022	o					0.01
80.833	0.00	0.02	0.022	o					0.01
80.917	0.00	0.02	0.022	o					0.01
81.000	0.00	0.02	0.022	o					0.01
81.083	0.00	0.02	0.021	o					0.01
81.167	0.00	0.02	0.021	o					0.01
81.250	0.00	0.02	0.021	o					0.01
81.333	0.00	0.02	0.021	o					0.01
81.417	0.00	0.02	0.021	o					0.01
81.500	0.00	0.02	0.021	o					0.01
81.583	0.00	0.02	0.020	o					0.01
81.667	0.00	0.02	0.020	o					0.01
81.750	0.00	0.02	0.020	o					0.01
81.833	0.00	0.02	0.020	o					0.01
81.917	0.00	0.02	0.020	o					0.01
82.000	0.00	0.02	0.020	o					0.01
82.083	0.00	0.02	0.020	o					0.01
82.167	0.00	0.02	0.019	o					0.01
82.250	0.00	0.02	0.019	o					0.01
82.333	0.00	0.02	0.019	o					0.01
82.417	0.00	0.02	0.019	o					0.01
82.500	0.00	0.02	0.019	o					0.01
82.583	0.00	0.02	0.019	o					0.01
82.667	0.00	0.02	0.019	o					0.01
82.750	0.00	0.02	0.018	o					0.01
82.833	0.00	0.02	0.018	o					0.01
82.917	0.00	0.02	0.018	o					0.01
83.000	0.00	0.02	0.018	o					0.01
83.083	0.00	0.02	0.018	o					0.01
83.167	0.00	0.02	0.018	o					0.01
83.250	0.00	0.02	0.018	o					0.01
83.333	0.00	0.02	0.017	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.02	0.017	o					0.01
83.500	0.00	0.02	0.017	o					0.01
83.583	0.00	0.02	0.017	o					0.01
83.667	0.00	0.02	0.017	o					0.01
83.750	0.00	0.02	0.017	o					0.01
83.833	0.00	0.02	0.017	o					0.01
83.917	0.00	0.02	0.016	o					0.01
84.000	0.00	0.02	0.016	o					0.01
84.083	0.00	0.02	0.016	o					0.01
84.167	0.00	0.02	0.016	o					0.01
84.250	0.00	0.02	0.016	o					0.01
84.333	0.00	0.02	0.016	o					0.01
84.417	0.00	0.02	0.016	o					0.01
84.500	0.00	0.02	0.016	o					0.01
84.583	0.00	0.02	0.015	o					0.01
84.667	0.00	0.02	0.015	o					0.01
84.750	0.00	0.02	0.015	o					0.01
84.833	0.00	0.02	0.015	o					0.01
84.917	0.00	0.02	0.015	o					0.01
85.000	0.00	0.02	0.015	o					0.01
85.083	0.00	0.02	0.015	o					0.01
85.167	0.00	0.02	0.015	o					0.01
85.250	0.00	0.02	0.015	o					0.01
85.333	0.00	0.02	0.014	o					0.01
85.417	0.00	0.02	0.014	o					0.01
85.500	0.00	0.02	0.014	o					0.01
85.583	0.00	0.02	0.014	o					0.01
85.667	0.00	0.02	0.014	o					0.01
85.750	0.00	0.02	0.014	o					0.01
85.833	0.00	0.02	0.014	o					0.01
85.917	0.00	0.02	0.014	o					0.01
86.000	0.00	0.02	0.014	o					0.01
86.083	0.00	0.02	0.013	o					0.01
86.167	0.00	0.02	0.013	o					0.01
86.250	0.00	0.01	0.013	o					0.01
86.333	0.00	0.01	0.013	o					0.01
86.417	0.00	0.01	0.013	o					0.01
86.500	0.00	0.01	0.013	o					0.01
86.583	0.00	0.01	0.013	o					0.01
86.667	0.00	0.01	0.013	o					0.01
86.750	0.00	0.01	0.013	o					0.01
86.833	0.00	0.01	0.013	o					0.01
86.917	0.00	0.01	0.012	o					0.01
87.000	0.00	0.01	0.012	o					0.01
87.083	0.00	0.01	0.012	o					0.01
87.167	0.00	0.01	0.012	o					0.01
87.250	0.00	0.01	0.012	o					0.01
87.333	0.00	0.01	0.012	o					0.01
87.417	0.00	0.01	0.012	o					0.01
87.500	0.00	0.01	0.012	o					0.01
87.583	0.00	0.01	0.012	o					0.01
87.667	0.00	0.01	0.012	o					0.01
87.750	0.00	0.01	0.012	o					0.01
87.833	0.00	0.01	0.011	o					0.01
87.917	0.00	0.01	0.011	o					0.01
88.000	0.00	0.01	0.011	o					0.01
88.083	0.00	0.01	0.011	o					0.01
88.167	0.00	0.01	0.011	o					0.01
88.250	0.00	0.01	0.011	o					0.01
88.333	0.00	0.01	0.011	o					0.01
88.417	0.00	0.01	0.011	o					0.01
88.500	0.00	0.01	0.011	o					0.01
88.583	0.00	0.01	0.011	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.01	0.011	o					0.01
88.750	0.00	0.01	0.010	o					0.01
88.833	0.00	0.01	0.010	o					0.01
88.917	0.00	0.01	0.010	o					0.01
89.000	0.00	0.01	0.010	o					0.01
89.083	0.00	0.01	0.010	o					0.01
89.167	0.00	0.01	0.010	o					0.01
89.250	0.00	0.01	0.010	o					0.01
89.333	0.00	0.01	0.010	o					0.01
89.417	0.00	0.01	0.010	o					0.01
89.500	0.00	0.01	0.010	o					0.01
89.583	0.00	0.01	0.010	o					0.01
89.667	0.00	0.01	0.010	o					0.01
89.750	0.00	0.01	0.010	o					0.01
89.833	0.00	0.01	0.009	o					0.01
89.917	0.00	0.01	0.009	o					0.01
90.000	0.00	0.01	0.009	o					0.01
90.083	0.00	0.01	0.009	o					0.01
90.167	0.00	0.01	0.009	o					0.01
90.250	0.00	0.01	0.009	o					0.01
90.333	0.00	0.01	0.009	o					0.01
90.417	0.00	0.01	0.009	o					0.01
90.500	0.00	0.01	0.009	o					0.01
90.583	0.00	0.01	0.009	o					0.01
90.667	0.00	0.01	0.009	o					0.01
90.750	0.00	0.01	0.009	o					0.01
90.833	0.00	0.01	0.009	o					0.01
90.917	0.00	0.01	0.009	o					0.01
91.000	0.00	0.01	0.009	o					0.01
91.083	0.00	0.01	0.008	o					0.00
91.167	0.00	0.01	0.008	o					0.00
91.250	0.00	0.01	0.008	o					0.00
91.333	0.00	0.01	0.008	o					0.00
91.417	0.00	0.01	0.008	o					0.00
91.500	0.00	0.01	0.008	o					0.00
91.583	0.00	0.01	0.008	o					0.00
91.667	0.00	0.01	0.008	o					0.00
91.750	0.00	0.01	0.008	o					0.00
91.833	0.00	0.01	0.008	o					0.00
91.917	0.00	0.01	0.008	o					0.00
92.000	0.00	0.01	0.008	o					0.00
92.083	0.00	0.01	0.008	o					0.00
92.167	0.00	0.01	0.008	o					0.00
92.250	0.00	0.01	0.008	o					0.00
92.333	0.00	0.01	0.008	o					0.00
92.417	0.00	0.01	0.007	o					0.00
92.500	0.00	0.01	0.007	o					0.00
92.583	0.00	0.01	0.007	o					0.00
92.667	0.00	0.01	0.007	o					0.00
92.750	0.00	0.01	0.007	o					0.00
92.833	0.00	0.01	0.007	o					0.00
92.917	0.00	0.01	0.007	o					0.00
93.000	0.00	0.01	0.007	o					0.00
93.083	0.00	0.01	0.007	o					0.00
93.167	0.00	0.01	0.007	o					0.00
93.250	0.00	0.01	0.007	o					0.00
93.333	0.00	0.01	0.007	o					0.00
93.417	0.00	0.01	0.007	o					0.00
93.500	0.00	0.01	0.007	o					0.00
93.583	0.00	0.01	0.007	o					0.00
93.667	0.00	0.01	0.007	o					0.00
93.750	0.00	0.01	0.007	o					0.00
93.833	0.00	0.01	0.007	o					0.00

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.01	0.006	0					0.00
94.000	0.00	0.01	0.006	0					0.00
94.083	0.00	0.01	0.006	0					0.00
94.167	0.00	0.01	0.006	0					0.00
94.250	0.00	0.01	0.006	0					0.00
94.333	0.00	0.01	0.006	0					0.00
94.417	0.00	0.01	0.006	0					0.00
94.500	0.00	0.01	0.006	0					0.00
94.583	0.00	0.01	0.006	0					0.00
94.667	0.00	0.01	0.006	0					0.00
94.750	0.00	0.01	0.006	0					0.00
94.833	0.00	0.01	0.006	0					0.00
94.917	0.00	0.01	0.006	0					0.00
95.000	0.00	0.01	0.006	0					0.00
95.083	0.00	0.01	0.006	0					0.00
95.167	0.00	0.01	0.006	0					0.00
95.250	0.00	0.01	0.006	0					0.00
95.333	0.00	0.01	0.006	0					0.00
95.417	0.00	0.01	0.006	0					0.00
95.500	0.00	0.01	0.006	0					0.00
95.583	0.00	0.01	0.006	0					0.00
95.667	0.00	0.01	0.006	0					0.00
95.750	0.00	0.01	0.005	0					0.00
95.833	0.00	0.01	0.005	0					0.00
95.917	0.00	0.01	0.005	0					0.00
96.000	0.00	0.01	0.005	0					0.00
96.083	0.00	0.01	0.005	0					0.00
96.167	0.00	0.01	0.005	0					0.00
96.250	0.00	0.01	0.005	0					0.00
96.333	0.00	0.01	0.005	0					0.00
96.417	0.00	0.01	0.005	0					0.00
96.500	0.00	0.01	0.005	0					0.00
96.583	0.00	0.01	0.005	0					0.00
96.667	0.00	0.01	0.005	0					0.00
96.750	0.00	0.01	0.005	0					0.00
96.833	0.00	0.01	0.005	0					0.00
96.917	0.00	0.01	0.005	0					0.00
97.000	0.00	0.01	0.005	0					0.00
97.083	0.00	0.01	0.005	0					0.00
97.167	0.00	0.01	0.005	0					0.00
97.250	0.00	0.01	0.005	0					0.00
97.333	0.00	0.01	0.005	0					0.00
97.417	0.00	0.01	0.005	0					0.00
97.500	0.00	0.01	0.005	0					0.00
97.583	0.00	0.01	0.005	0					0.00
97.667	0.00	0.01	0.005	0					0.00
97.750	0.00	0.01	0.005	0					0.00
97.833	0.00	0.01	0.005	0					0.00
97.917	0.00	0.01	0.004	0					0.00
98.000	0.00	0.00	0.004	0					0.00
98.083	0.00	0.00	0.004	0					0.00
98.167	0.00	0.00	0.004	0					0.00
98.250	0.00	0.00	0.004	0					0.00
98.333	0.00	0.00	0.004	0					0.00
98.417	0.00	0.00	0.004	0					0.00
98.500	0.00	0.00	0.004	0					0.00
98.583	0.00	0.00	0.004	0					0.00
98.667	0.00	0.00	0.004	0					0.00
98.750	0.00	0.00	0.004	0					0.00
98.833	0.00	0.00	0.004	0					0.00
98.917	0.00	0.00	0.004	0					0.00
99.000	0.00	0.00	0.004	0					0.00
99.083	0.00	0.00	0.004	0					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.00	0.004	o					0.00
99.250	0.00	0.00	0.004	o					0.00
99.333	0.00	0.00	0.004	o					0.00
99.417	0.00	0.00	0.004	o					0.00
99.500	0.00	0.00	0.004	o					0.00
99.583	0.00	0.00	0.004	o					0.00
99.667	0.00	0.00	0.004	o					0.00
99.750	0.00	0.00	0.004	o					0.00
99.833	0.00	0.00	0.004	o					0.00
99.917	0.00	0.00	0.004	o					0.00
100.000	0.00	0.00	0.004	o					0.00
100.083	0.00	0.00	0.004	o					0.00
100.167	0.00	0.00	0.004	o					0.00
100.250	0.00	0.00	0.004	o					0.00
100.333	0.00	0.00	0.004	o					0.00
100.417	0.00	0.00	0.004	o					0.00
100.500	0.00	0.00	0.004	o					0.00
100.583	0.00	0.00	0.003	o					0.00
100.667	0.00	0.00	0.003	o					0.00
100.750	0.00	0.00	0.003	o					0.00
100.833	0.00	0.00	0.003	o					0.00
100.917	0.00	0.00	0.003	o					0.00
101.000	0.00	0.00	0.003	o					0.00
101.083	0.00	0.00	0.003	o					0.00
101.167	0.00	0.00	0.003	o					0.00
101.250	0.00	0.00	0.003	o					0.00
101.333	0.00	0.00	0.003	o					0.00
101.417	0.00	0.00	0.003	o					0.00
101.500	0.00	0.00	0.003	o					0.00
101.583	0.00	0.00	0.003	o					0.00
101.667	0.00	0.00	0.003	o					0.00
101.750	0.00	0.00	0.003	o					0.00
101.833	0.00	0.00	0.003	o					0.00
101.917	0.00	0.00	0.003	o					0.00
102.000	0.00	0.00	0.003	o					0.00
102.083	0.00	0.00	0.003	o					0.00
102.167	0.00	0.00	0.003	o					0.00
102.250	0.00	0.00	0.003	o					0.00
102.333	0.00	0.00	0.003	o					0.00
102.417	0.00	0.00	0.003	o					0.00
102.500	0.00	0.00	0.003	o					0.00
102.583	0.00	0.00	0.003	o					0.00
102.667	0.00	0.00	0.003	o					0.00
102.750	0.00	0.00	0.003	o					0.00
102.833	0.00	0.00	0.003	o					0.00
102.917	0.00	0.00	0.003	o					0.00
103.000	0.00	0.00	0.003	o					0.00
103.083	0.00	0.00	0.003	o					0.00
103.167	0.00	0.00	0.003	o					0.00
103.250	0.00	0.00	0.003	o					0.00
103.333	0.00	0.00	0.003	o					0.00
103.417	0.00	0.00	0.003	o					0.00
103.500	0.00	0.00	0.003	o					0.00
103.583	0.00	0.00	0.003	o					0.00
103.667	0.00	0.00	0.003	o					0.00
103.750	0.00	0.00	0.003	o					0.00
103.833	0.00	0.00	0.003	o					0.00
103.917	0.00	0.00	0.003	o					0.00
104.000	0.00	0.00	0.003	o					0.00
104.083	0.00	0.00	0.003	o					0.00
104.167	0.00	0.00	0.002	o					0.00
104.250	0.00	0.00	0.002	o					0.00
104.333	0.00	0.00	0.002	o					0.00

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.00	0.002	o					0.00
104.500	0.00	0.00	0.002	o					0.00
104.583	0.00	0.00	0.002	o					0.00
104.667	0.00	0.00	0.002	o					0.00
104.750	0.00	0.00	0.002	o					0.00
104.833	0.00	0.00	0.002	o					0.00
104.917	0.00	0.00	0.002	o					0.00
105.000	0.00	0.00	0.002	o					0.00
105.083	0.00	0.00	0.002	o					0.00
105.167	0.00	0.00	0.002	o					0.00
105.250	0.00	0.00	0.002	o					0.00
105.333	0.00	0.00	0.002	o					0.00
105.417	0.00	0.00	0.002	o					0.00
105.500	0.00	0.00	0.002	o					0.00
105.583	0.00	0.00	0.002	o					0.00
105.667	0.00	0.00	0.002	o					0.00
105.750	0.00	0.00	0.002	o					0.00
105.833	0.00	0.00	0.002	o					0.00
105.917	0.00	0.00	0.002	o					0.00
106.000	0.00	0.00	0.002	o					0.00
106.083	0.00	0.00	0.002	o					0.00
106.167	0.00	0.00	0.002	o					0.00
106.250	0.00	0.00	0.002	o					0.00
106.333	0.00	0.00	0.002	o					0.00
106.417	0.00	0.00	0.002	o					0.00
106.500	0.00	0.00	0.002	o					0.00
106.583	0.00	0.00	0.002	o					0.00
106.667	0.00	0.00	0.002	o					0.00
106.750	0.00	0.00	0.002	o					0.00
106.833	0.00	0.00	0.002	o					0.00
106.917	0.00	0.00	0.002	o					0.00
107.000	0.00	0.00	0.002	o					0.00
107.083	0.00	0.00	0.002	o					0.00
107.167	0.00	0.00	0.002	o					0.00
107.250	0.00	0.00	0.002	o					0.00
107.333	0.00	0.00	0.002	o					0.00
107.417	0.00	0.00	0.002	o					0.00
107.500	0.00	0.00	0.002	o					0.00
107.583	0.00	0.00	0.002	o					0.00
107.667	0.00	0.00	0.002	o					0.00
107.750	0.00	0.00	0.002	o					0.00
107.833	0.00	0.00	0.002	o					0.00
107.917	0.00	0.00	0.002	o					0.00
108.000	0.00	0.00	0.002	o					0.00
108.083	0.00	0.00	0.002	o					0.00
108.167	0.00	0.00	0.002	o					0.00
108.250	0.00	0.00	0.002	o					0.00
108.333	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*

```

Number of intervals = 1300
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.842 (CFS)
Total volume = 8.326 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 10-year 6-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx10prh610.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 78  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 92.591 (CFS)  
 Total volume = 10.991 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)          0.000    0.000    0.000    0.000    0.000  
 Vol (Ac.Ft)         0.000    0.000    0.000    0.000    0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 78  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

-----  
 Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	23.1	46.30	69.44	92.59	Depth (Ft.)
0.083	1.73	0.01	0.006	O					0.00
0.167	5.53	0.03	0.031	OI					0.02
0.250	7.18	0.08	0.074	O I					0.04
0.333	7.81	0.14	0.125	O I					0.07
0.417	8.14	0.20	0.179	O I					0.11
0.500	8.68	0.27	0.235	O I					0.14
0.583	9.51	0.33	0.296	O I					0.17
0.667	9.72	0.41	0.359	O I					0.21
0.750	9.81	0.48	0.424	O I					0.25
0.833	9.86	0.55	0.488	O I					0.29
0.917	9.89	0.62	0.552	O I					0.33
1.000	10.26	0.70	0.617	O I					0.36
1.083	10.95	0.77	0.685	O I					0.40
1.167	11.14	0.85	0.755	O I					0.45
1.250	11.23	0.93	0.826	O I					0.49
1.333	11.28	1.01	0.897	O I					0.53
1.417	11.31	1.09	0.967	O I					0.57
1.500	11.33	1.17	1.037	O I					0.61
1.583	11.33	1.25	1.107	O I					0.65
1.667	11.33	1.33	1.176	O I					0.69
1.750	11.33	1.40	1.245	O I					0.74
1.833	11.33	1.48	1.313	O I					0.78
1.917	11.33	1.56	1.380	O I					0.82
2.000	11.67	1.63	1.449	O I					0.86
2.083	12.02	1.71	1.519	O I					0.90
2.167	11.87	1.79	1.589	O I					0.94
2.250	12.45	1.87	1.660	O I					0.98
2.333	12.61	1.92	1.733	O I					1.02
2.417	12.67	1.93	1.807	O I					1.05
2.500	12.72	1.95	1.881	O I					1.09
2.583	12.72	1.96	1.955	O I					1.12
2.667	12.74	1.98	2.029	O I					1.16
2.750	13.09	1.99	2.105	O I					1.19
2.833	13.78	2.01	2.183	O I					1.23
2.917	13.97	2.03	2.265	O I					1.27
3.000	14.06	2.04	2.348	O I					1.31
3.083	14.11	2.06	2.430	O I					1.35
3.167	14.48	2.08	2.515	O I					1.39
3.250	15.20	2.10	2.602	O I					1.43
3.333	15.39	2.11	2.693	O I					1.47
3.417	15.82	2.13	2.786	O I					1.52
3.500	16.91	2.15	2.884	O I					1.56
3.583	18.17	2.17	2.990	O I					1.61
3.667	19.16	2.20	3.103	O I					1.67
3.750	19.83	2.22	3.222	O I					1.72
3.833	20.69	2.25	3.347	O I					1.78
3.917	21.32	2.27	3.476	O I					1.84
4.000	22.15	2.30	3.610	O I					1.91
4.083	22.77	2.33	3.748	O I					1.97
4.167	24.14	2.35	3.894	O I					2.03
4.250	26.08	2.37	4.051	O I					2.09
4.333	28.18	2.40	4.221	O I					2.15
4.417	30.37	2.42	4.406	O I					2.22
4.500	32.04	2.45	4.604	O I					2.29
4.583	33.20	2.48	4.812	O I					2.37

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.667	35.18	2.51	5.030	O		I					2.45
4.750	37.32	2.54	5.262	O		I					2.53
4.833	38.97	2.57	5.508	O		I					2.62
4.917	40.09	2.61	5.762	O		I					2.72
5.000	42.03	2.64	6.027	O		I					2.81
5.083	46.40	2.68	6.313	O			I				2.92
5.167	55.30	2.72	6.644	O			I				3.03
5.250	64.35	2.76	7.038	O				I			3.16
5.333	71.74	2.81	7.487	O					I		3.30
5.417	79.98	2.86	7.990	O					I		3.45
5.500	92.59	2.91	8.564	IO						I	3.63
5.583	84.56	2.97	9.154	IO						I	3.82
5.667	43.49	3.01	9.575	IO		I					3.95
5.750	25.15	3.44	9.789	IO	I						4.01
5.833	16.43	4.43	9.905	IO	I						4.05
5.917	11.18	4.97	9.967	IO	I						4.06
6.000	7.08	5.21	9.995	IO	I						4.07
6.083	3.40	5.21	9.996	IO							4.07
6.167	1.26	5.05	9.976	IO							4.07
6.250	0.60	4.81	9.949	IO							4.06
6.333	0.30	4.56	9.920	IO							4.05
6.417	0.13	4.31	9.890	IO							4.04
6.500	0.05	4.07	9.862	IO							4.03
6.583	0.00	3.84	9.835	IO							4.03
6.667	0.00	3.62	9.809	IO							4.02
6.750	0.00	3.41	9.785	IO							4.01
6.833	0.00	3.21	9.762	IO							4.01
6.917	0.00	3.03	9.741	IO							4.00
7.000	0.00	3.03	9.720	IO							3.99
7.083	0.00	3.03	9.699	IO							3.99
7.167	0.00	3.02	9.678	IO							3.98
7.250	0.00	3.02	9.658	IO							3.97
7.333	0.00	3.02	9.637	IO							3.97
7.417	0.00	3.02	9.616	IO							3.96
7.500	0.00	3.02	9.595	IO							3.95
7.583	0.00	3.01	9.574	IO							3.95
7.667	0.00	3.01	9.554	IO							3.94
7.750	0.00	3.01	9.533	IO							3.94
7.833	0.00	3.01	9.512	IO							3.93
7.917	0.00	3.01	9.492	IO							3.92
8.000	0.00	3.00	9.471	IO							3.92
8.083	0.00	3.00	9.450	IO							3.91
8.167	0.00	3.00	9.430	IO							3.90
8.250	0.00	3.00	9.409	IO							3.90
8.333	0.00	2.99	9.388	IO							3.89
8.417	0.00	2.99	9.368	IO							3.88
8.500	0.00	2.99	9.347	IO							3.88
8.583	0.00	2.99	9.326	IO							3.87
8.667	0.00	2.99	9.306	IO							3.86
8.750	0.00	2.98	9.285	IO							3.86
8.833	0.00	2.98	9.265	IO							3.85
8.917	0.00	2.98	9.244	IO							3.85
9.000	0.00	2.98	9.224	IO							3.84
9.083	0.00	2.98	9.203	IO							3.83
9.167	0.00	2.97	9.183	IO							3.83
9.250	0.00	2.97	9.162	IO							3.82
9.333	0.00	2.97	9.142	IO							3.81
9.417	0.00	2.97	9.121	IO							3.81
9.500	0.00	2.97	9.101	IO							3.80
9.583	0.00	2.96	9.080	IO							3.79
9.667	0.00	2.96	9.060	IO							3.79
9.750	0.00	2.96	9.040	IO							3.78
9.833	0.00	2.96	9.019	IO							3.77

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.96	8.999	IO					3.77
10.000	0.00	2.95	8.979	IO					3.76
10.083	0.00	2.95	8.958	IO					3.76
10.167	0.00	2.95	8.938	IO					3.75
10.250	0.00	2.95	8.918	IO					3.74
10.333	0.00	2.95	8.897	IO					3.74
10.417	0.00	2.94	8.877	IO					3.73
10.500	0.00	2.94	8.857	IO					3.72
10.583	0.00	2.94	8.837	IO					3.72
10.667	0.00	2.94	8.816	IO					3.71
10.750	0.00	2.94	8.796	IO					3.71
10.833	0.00	2.93	8.776	IO					3.70
10.917	0.00	2.93	8.756	IO					3.69
11.000	0.00	2.93	8.735	IO					3.69
11.083	0.00	2.93	8.715	IO					3.68
11.167	0.00	2.93	8.695	IO					3.67
11.250	0.00	2.92	8.675	IO					3.67
11.333	0.00	2.92	8.655	IO					3.66
11.417	0.00	2.92	8.635	IO					3.66
11.500	0.00	2.92	8.615	IO					3.65
11.583	0.00	2.92	8.595	IO					3.64
11.667	0.00	2.91	8.575	IO					3.64
11.750	0.00	2.91	8.554	IO					3.63
11.833	0.00	2.91	8.534	IO					3.62
11.917	0.00	2.91	8.514	IO					3.62
12.000	0.00	2.91	8.494	IO					3.61
12.083	0.00	2.90	8.474	IO					3.61
12.167	0.00	2.90	8.454	IO					3.60
12.250	0.00	2.90	8.434	IO					3.59
12.333	0.00	2.90	8.414	IO					3.59
12.417	0.00	2.90	8.394	IO					3.58
12.500	0.00	2.89	8.375	IO					3.57
12.583	0.00	2.89	8.355	O					3.57
12.667	0.00	2.89	8.335	O					3.56
12.750	0.00	2.89	8.315	O					3.56
12.833	0.00	2.89	8.295	O					3.55
12.917	0.00	2.88	8.275	O					3.54
13.000	0.00	2.88	8.255	O					3.54
13.083	0.00	2.88	8.235	O					3.53
13.167	0.00	2.88	8.216	O					3.52
13.250	0.00	2.88	8.196	O					3.52
13.333	0.00	2.87	8.176	O					3.51
13.417	0.00	2.87	8.156	O					3.51
13.500	0.00	2.87	8.136	O					3.50
13.583	0.00	2.87	8.117	O					3.49
13.667	0.00	2.87	8.097	O					3.49
13.750	0.00	2.86	8.077	O					3.48
13.833	0.00	2.86	8.057	O					3.48
13.917	0.00	2.86	8.038	O					3.47
14.000	0.00	2.86	8.018	O					3.46
14.083	0.00	2.86	7.998	O					3.46
14.167	0.00	2.85	7.979	O					3.45
14.250	0.00	2.85	7.959	O					3.44
14.333	0.00	2.85	7.939	O					3.44
14.417	0.00	2.85	7.920	O					3.43
14.500	0.00	2.85	7.900	O					3.43
14.583	0.00	2.84	7.881	O					3.42
14.667	0.00	2.84	7.861	O					3.41
14.750	0.00	2.84	7.841	O					3.41
14.833	0.00	2.84	7.822	O					3.40
14.917	0.00	2.84	7.802	O					3.40
15.000	0.00	2.83	7.783	O					3.39
15.083	0.00	2.83	7.763	O					3.38

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	2.83	7.744	0					3.38
15.250	0.00	2.83	7.724	0					3.37
15.333	0.00	2.83	7.705	0					3.37
15.417	0.00	2.82	7.685	0					3.36
15.500	0.00	2.82	7.666	0					3.35
15.583	0.00	2.82	7.646	0					3.35
15.667	0.00	2.82	7.627	0					3.34
15.750	0.00	2.82	7.608	0					3.33
15.833	0.00	2.82	7.588	0					3.33
15.917	0.00	2.81	7.569	0					3.32
16.000	0.00	2.81	7.549	0					3.32
16.083	0.00	2.81	7.530	0					3.31
16.167	0.00	2.81	7.511	0					3.30
16.250	0.00	2.81	7.491	0					3.30
16.333	0.00	2.80	7.472	0					3.29
16.417	0.00	2.80	7.453	0					3.29
16.500	0.00	2.80	7.434	0					3.28
16.583	0.00	2.80	7.414	0					3.27
16.667	0.00	2.80	7.395	0					3.27
16.750	0.00	2.79	7.376	0					3.26
16.833	0.00	2.79	7.357	0					3.26
16.917	0.00	2.79	7.337	0					3.25
17.000	0.00	2.79	7.318	0					3.24
17.083	0.00	2.79	7.299	0					3.24
17.167	0.00	2.78	7.280	0					3.23
17.250	0.00	2.78	7.261	0					3.23
17.333	0.00	2.78	7.241	0					3.22
17.417	0.00	2.78	7.222	0					3.21
17.500	0.00	2.78	7.203	0					3.21
17.583	0.00	2.77	7.184	0					3.20
17.667	0.00	2.77	7.165	0					3.20
17.750	0.00	2.77	7.146	0					3.19
17.833	0.00	2.77	7.127	0					3.18
17.917	0.00	2.77	7.108	0					3.18
18.000	0.00	2.77	7.089	0					3.17
18.083	0.00	2.76	7.070	0					3.17
18.167	0.00	2.76	7.051	0					3.16
18.250	0.00	2.76	7.032	0					3.16
18.333	0.00	2.76	7.013	0					3.15
18.417	0.00	2.76	6.994	0					3.14
18.500	0.00	2.75	6.975	0					3.14
18.583	0.00	2.75	6.956	0					3.13
18.667	0.00	2.75	6.937	0					3.13
18.750	0.00	2.75	6.918	0					3.12
18.833	0.00	2.75	6.899	0					3.11
18.917	0.00	2.74	6.880	0					3.11
19.000	0.00	2.74	6.861	0					3.10
19.083	0.00	2.74	6.842	0					3.10
19.167	0.00	2.74	6.823	0					3.09
19.250	0.00	2.74	6.804	0					3.08
19.333	0.00	2.74	6.786	0					3.08
19.417	0.00	2.73	6.767	0					3.07
19.500	0.00	2.73	6.748	0					3.07
19.583	0.00	2.73	6.729	0					3.06
19.667	0.00	2.73	6.710	0					3.05
19.750	0.00	2.73	6.692	0					3.05
19.833	0.00	2.72	6.673	0					3.04
19.917	0.00	2.72	6.654	0					3.04
20.000	0.00	2.72	6.635	0					3.03
20.083	0.00	2.72	6.617	0					3.03
20.167	0.00	2.72	6.598	0					3.02
20.250	0.00	2.71	6.579	0					3.01
20.333	0.00	2.71	6.560	0					3.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.71	6.542	0					3.00
20.500	0.00	2.71	6.523	0					3.00
20.583	0.00	2.71	6.504	0					2.99
20.667	0.00	2.70	6.486	0					2.98
20.750	0.00	2.70	6.467	0					2.98
20.833	0.00	2.70	6.449	0					2.97
20.917	0.00	2.70	6.430	0					2.96
21.000	0.00	2.69	6.412	0					2.96
21.083	0.00	2.69	6.393	0					2.95
21.167	0.00	2.69	6.374	0					2.94
21.250	0.00	2.69	6.356	0					2.93
21.333	0.00	2.68	6.337	0					2.93
21.417	0.00	2.68	6.319	0					2.92
21.500	0.00	2.68	6.301	0					2.91
21.583	0.00	2.68	6.282	0					2.91
21.667	0.00	2.67	6.264	0					2.90
21.750	0.00	2.67	6.245	0					2.89
21.833	0.00	2.67	6.227	0					2.89
21.917	0.00	2.67	6.209	0					2.88
22.000	0.00	2.66	6.190	0					2.87
22.083	0.00	2.66	6.172	0					2.87
22.167	0.00	2.66	6.154	0					2.86
22.250	0.00	2.66	6.135	0					2.85
22.333	0.00	2.65	6.117	0					2.85
22.417	0.00	2.65	6.099	0					2.84
22.500	0.00	2.65	6.080	0					2.83
22.583	0.00	2.65	6.062	0					2.83
22.667	0.00	2.64	6.044	0					2.82
22.750	0.00	2.64	6.026	0					2.81
22.833	0.00	2.64	6.008	0					2.81
22.917	0.00	2.64	5.989	0					2.80
23.000	0.00	2.63	5.971	0					2.79
23.083	0.00	2.63	5.953	0					2.79
23.167	0.00	2.63	5.935	0					2.78
23.250	0.00	2.63	5.917	0					2.77
23.333	0.00	2.62	5.899	0					2.77
23.417	0.00	2.62	5.881	0					2.76
23.500	0.00	2.62	5.863	0					2.75
23.583	0.00	2.62	5.845	0					2.75
23.667	0.00	2.61	5.827	0					2.74
23.750	0.00	2.61	5.809	0					2.73
23.833	0.00	2.61	5.791	0					2.73
23.917	0.00	2.61	5.773	0					2.72
24.000	0.00	2.60	5.755	0					2.71
24.083	0.00	2.60	5.737	0					2.71
24.167	0.00	2.60	5.719	0					2.70
24.250	0.00	2.60	5.701	0					2.69
24.333	0.00	2.59	5.683	0					2.69
24.417	0.00	2.59	5.665	0					2.68
24.500	0.00	2.59	5.648	0					2.68
24.583	0.00	2.59	5.630	0					2.67
24.667	0.00	2.58	5.612	0					2.66
24.750	0.00	2.58	5.594	0					2.66
24.833	0.00	2.58	5.576	0					2.65
24.917	0.00	2.58	5.559	0					2.64
25.000	0.00	2.58	5.541	0					2.64
25.083	0.00	2.57	5.523	0					2.63
25.167	0.00	2.57	5.505	0					2.62
25.250	0.00	2.57	5.488	0					2.62
25.333	0.00	2.57	5.470	0					2.61
25.417	0.00	2.56	5.452	0					2.60
25.500	0.00	2.56	5.435	0					2.60
25.583	0.00	2.56	5.417	0					2.59

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.56	5.399	0					2.58
25.750	0.00	2.55	5.382	0					2.58
25.833	0.00	2.55	5.364	0					2.57
25.917	0.00	2.55	5.347	0					2.56
26.000	0.00	2.55	5.329	0					2.56
26.083	0.00	2.54	5.312	0					2.55
26.167	0.00	2.54	5.294	0					2.55
26.250	0.00	2.54	5.277	0					2.54
26.333	0.00	2.54	5.259	0					2.53
26.417	0.00	2.53	5.242	0					2.53
26.500	0.00	2.53	5.224	0					2.52
26.583	0.00	2.53	5.207	0					2.51
26.667	0.00	2.53	5.189	0					2.51
26.750	0.00	2.53	5.172	0					2.50
26.833	0.00	2.52	5.155	0					2.49
26.917	0.00	2.52	5.137	0					2.49
27.000	0.00	2.52	5.120	0					2.48
27.083	0.00	2.52	5.103	0					2.48
27.167	0.00	2.51	5.085	0					2.47
27.250	0.00	2.51	5.068	0					2.46
27.333	0.00	2.51	5.051	0					2.46
27.417	0.00	2.51	5.033	0					2.45
27.500	0.00	2.50	5.016	0					2.44
27.583	0.00	2.50	4.999	0					2.44
27.667	0.00	2.50	4.982	0					2.43
27.750	0.00	2.50	4.964	0					2.42
27.833	0.00	2.49	4.947	0					2.42
27.917	0.00	2.49	4.930	0					2.41
28.000	0.00	2.49	4.913	0					2.41
28.083	0.00	2.49	4.896	0					2.40
28.167	0.00	2.49	4.879	0					2.39
28.250	0.00	2.48	4.862	0					2.39
28.333	0.00	2.48	4.844	0					2.38
28.417	0.00	2.48	4.827	0					2.37
28.500	0.00	2.48	4.810	0					2.37
28.583	0.00	2.47	4.793	0					2.36
28.667	0.00	2.47	4.776	0					2.36
28.750	0.00	2.47	4.759	0					2.35
28.833	0.00	2.47	4.742	0					2.34
28.917	0.00	2.46	4.725	0					2.34
29.000	0.00	2.46	4.708	0					2.33
29.083	0.00	2.46	4.691	0					2.32
29.167	0.00	2.46	4.674	0					2.32
29.250	0.00	2.46	4.657	0					2.31
29.333	0.00	2.45	4.641	0					2.31
29.417	0.00	2.45	4.624	0					2.30
29.500	0.00	2.45	4.607	0					2.29
29.583	0.00	2.45	4.590	0					2.29
29.667	0.00	2.44	4.573	0					2.28
29.750	0.00	2.44	4.556	0					2.28
29.833	0.00	2.44	4.539	0					2.27
29.917	0.00	2.44	4.523	0					2.26
30.000	0.00	2.43	4.506	0					2.26
30.083	0.00	2.43	4.489	0					2.25
30.167	0.00	2.43	4.472	0					2.24
30.250	0.00	2.43	4.456	0					2.24
30.333	0.00	2.43	4.439	0					2.23
30.417	0.00	2.42	4.422	0					2.23
30.500	0.00	2.42	4.406	0					2.22
30.583	0.00	2.42	4.389	0					2.21
30.667	0.00	2.42	4.372	0					2.21
30.750	0.00	2.41	4.356	0					2.20
30.833	0.00	2.41	4.339	0					2.20

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	2.41	4.322	0					2.19
31.000	0.00	2.41	4.306	0					2.18
31.083	0.00	2.41	4.289	0					2.18
31.167	0.00	2.40	4.273	0					2.17
31.250	0.00	2.40	4.256	0					2.16
31.333	0.00	2.40	4.240	0					2.16
31.417	0.00	2.40	4.223	0					2.15
31.500	0.00	2.39	4.207	0					2.15
31.583	0.00	2.39	4.190	0					2.14
31.667	0.00	2.39	4.174	0					2.13
31.750	0.00	2.39	4.157	0					2.13
31.833	0.00	2.39	4.141	0					2.12
31.917	0.00	2.38	4.124	0					2.12
32.000	0.00	2.38	4.108	0					2.11
32.083	0.00	2.38	4.092	0					2.10
32.167	0.00	2.38	4.075	0					2.10
32.250	0.00	2.37	4.059	0					2.09
32.333	0.00	2.37	4.042	0					2.09
32.417	0.00	2.37	4.026	0					2.08
32.500	0.00	2.37	4.010	0					2.07
32.583	0.00	2.37	3.993	0					2.07
32.667	0.00	2.36	3.977	0					2.06
32.750	0.00	2.36	3.961	0					2.06
32.833	0.00	2.36	3.945	0					2.05
32.917	0.00	2.36	3.928	0					2.04
33.000	0.00	2.35	3.912	0					2.04
33.083	0.00	2.35	3.896	0					2.03
33.167	0.00	2.35	3.880	0					2.03
33.250	0.00	2.35	3.864	0					2.02
33.333	0.00	2.35	3.847	0					2.02
33.417	0.00	2.34	3.831	0					2.01
33.500	0.00	2.34	3.815	0					2.00
33.583	0.00	2.34	3.799	0					2.00
33.667	0.00	2.34	3.783	0					1.99
33.750	0.00	2.33	3.767	0					1.98
33.833	0.00	2.33	3.751	0					1.97
33.917	0.00	2.33	3.735	0					1.97
34.000	0.00	2.32	3.719	0					1.96
34.083	0.00	2.32	3.703	0					1.95
34.167	0.00	2.32	3.687	0					1.94
34.250	0.00	2.31	3.671	0					1.94
34.333	0.00	2.31	3.655	0					1.93
34.417	0.00	2.31	3.639	0					1.92
34.500	0.00	2.30	3.623	0					1.91
34.583	0.00	2.30	3.607	0					1.91
34.667	0.00	2.30	3.592	0					1.90
34.750	0.00	2.29	3.576	0					1.89
34.833	0.00	2.29	3.560	0					1.88
34.917	0.00	2.29	3.544	0					1.88
35.000	0.00	2.28	3.529	0					1.87
35.083	0.00	2.28	3.513	0					1.86
35.167	0.00	2.28	3.497	0					1.85
35.250	0.00	2.27	3.481	0					1.85
35.333	0.00	2.27	3.466	0					1.84
35.417	0.00	2.27	3.450	0					1.83
35.500	0.00	2.26	3.435	0					1.82
35.583	0.00	2.26	3.419	0					1.82
35.667	0.00	2.26	3.403	0					1.81
35.750	0.00	2.25	3.388	0					1.80
35.833	0.00	2.25	3.372	0					1.79
35.917	0.00	2.25	3.357	0					1.79
36.000	0.00	2.25	3.341	0					1.78
36.083	0.00	2.24	3.326	0					1.77



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	2.24	3.311	0					1.77
36.250	0.00	2.24	3.295	0					1.76
36.333	0.00	2.23	3.280	0					1.75
36.417	0.00	2.23	3.264	0					1.74
36.500	0.00	2.23	3.249	0					1.74
36.583	0.00	2.22	3.234	0					1.73
36.667	0.00	2.22	3.218	0					1.72
36.750	0.00	2.22	3.203	0					1.71
36.833	0.00	2.21	3.188	0					1.71
36.917	0.00	2.21	3.173	0					1.70
37.000	0.00	2.21	3.157	0					1.69
37.083	0.00	2.20	3.142	0					1.69
37.167	0.00	2.20	3.127	0					1.68
37.250	0.00	2.20	3.112	0					1.67
37.333	0.00	2.20	3.097	0					1.66
37.417	0.00	2.19	3.082	0					1.66
37.500	0.00	2.19	3.067	0					1.65
37.583	0.00	2.19	3.051	0					1.64
37.667	0.00	2.18	3.036	0					1.64
37.750	0.00	2.18	3.021	0					1.63
37.833	0.00	2.18	3.006	0					1.62
37.917	0.00	2.17	2.991	0					1.61
38.000	0.00	2.17	2.976	0					1.61
38.083	0.00	2.17	2.961	0					1.60
38.167	0.00	2.17	2.947	0					1.59
38.250	0.00	2.16	2.932	0					1.59
38.333	0.00	2.16	2.917	0					1.58
38.417	0.00	2.16	2.902	0					1.57
38.500	0.00	2.15	2.887	0					1.57
38.583	0.00	2.15	2.872	0					1.56
38.667	0.00	2.15	2.857	0					1.55
38.750	0.00	2.14	2.843	0					1.54
38.833	0.00	2.14	2.828	0					1.54
38.917	0.00	2.14	2.813	0					1.53
39.000	0.00	2.13	2.798	0					1.52
39.083	0.00	2.13	2.784	0					1.52
39.167	0.00	2.13	2.769	0					1.51
39.250	0.00	2.13	2.754	0					1.50
39.333	0.00	2.12	2.740	0					1.50
39.417	0.00	2.12	2.725	0					1.49
39.500	0.00	2.12	2.711	0					1.48
39.583	0.00	2.11	2.696	0					1.47
39.667	0.00	2.11	2.682	0					1.47
39.750	0.00	2.11	2.667	0					1.46
39.833	0.00	2.11	2.652	0					1.45
39.917	0.00	2.10	2.638	0					1.45
40.000	0.00	2.10	2.624	0					1.44
40.083	0.00	2.10	2.609	0					1.43
40.167	0.00	2.09	2.595	0					1.43
40.250	0.00	2.09	2.580	0					1.42
40.333	0.00	2.09	2.566	0					1.41
40.417	0.00	2.08	2.551	0					1.41
40.500	0.00	2.08	2.537	0					1.40
40.583	0.00	2.08	2.523	0					1.39
40.667	0.00	2.08	2.508	0					1.39
40.750	0.00	2.07	2.494	0					1.38
40.833	0.00	2.07	2.480	0					1.37
40.917	0.00	2.07	2.466	0					1.37
41.000	0.00	2.06	2.451	0					1.36
41.083	0.00	2.06	2.437	0					1.35
41.167	0.00	2.06	2.423	0					1.35
41.250	0.00	2.06	2.409	0					1.34
41.333	0.00	2.05	2.395	0					1.33

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	2.05	2.381	0					1.33
41.500	0.00	2.05	2.367	0					1.32
41.583	0.00	2.04	2.352	0					1.31
41.667	0.00	2.04	2.338	0					1.31
41.750	0.00	2.04	2.324	0					1.30
41.833	0.00	2.04	2.310	0					1.29
41.917	0.00	2.03	2.296	0					1.29
42.000	0.00	2.03	2.282	0					1.28
42.083	0.00	2.03	2.268	0					1.27
42.167	0.00	2.02	2.254	0					1.27
42.250	0.00	2.02	2.240	0					1.26
42.333	0.00	2.02	2.227	0					1.25
42.417	0.00	2.02	2.213	0					1.25
42.500	0.00	2.01	2.199	0					1.24
42.583	0.00	2.01	2.185	0					1.23
42.667	0.00	2.01	2.171	0					1.23
42.750	0.00	2.00	2.157	0					1.22
42.833	0.00	2.00	2.143	0					1.21
42.917	0.00	2.00	2.130	0					1.21
43.000	0.00	2.00	2.116	0					1.20
43.083	0.00	1.99	2.102	0					1.19
43.167	0.00	1.99	2.088	0					1.19
43.250	0.00	1.99	2.075	0					1.18
43.333	0.00	1.98	2.061	0					1.17
43.417	0.00	1.98	2.047	0					1.17
43.500	0.00	1.98	2.034	0					1.16
43.583	0.00	1.98	2.020	0					1.15
43.667	0.00	1.97	2.007	0					1.15
43.750	0.00	1.97	1.993	0					1.14
43.833	0.00	1.97	1.979	0					1.14
43.917	0.00	1.97	1.966	0					1.13
44.000	0.00	1.96	1.952	0					1.12
44.083	0.00	1.96	1.939	0					1.12
44.167	0.00	1.96	1.925	0					1.11
44.250	0.00	1.95	1.912	0					1.10
44.333	0.00	1.95	1.898	0					1.10
44.417	0.00	1.95	1.885	0					1.09
44.500	0.00	1.95	1.872	0					1.08
44.583	0.00	1.94	1.858	0					1.08
44.667	0.00	1.94	1.845	0					1.07
44.750	0.00	1.94	1.831	0					1.07
44.833	0.00	1.94	1.818	0					1.06
44.917	0.00	1.93	1.805	0					1.05
45.000	0.00	1.93	1.791	0					1.05
45.083	0.00	1.93	1.778	0					1.04
45.167	0.00	1.92	1.765	0					1.03
45.250	0.00	1.92	1.752	0					1.03
45.333	0.00	1.92	1.738	0					1.02
45.417	0.00	1.92	1.725	0					1.02
45.500	0.00	1.91	1.712	0					1.01
45.583	0.00	1.91	1.699	0					1.00
45.667	0.00	1.90	1.686	0					1.00
45.750	0.00	1.89	1.673	0					0.99
45.833	0.00	1.87	1.660	0					0.98
45.917	0.00	1.86	1.647	0					0.97
46.000	0.00	1.84	1.634	0					0.97
46.083	0.00	1.83	1.622	0					0.96
46.167	0.00	1.82	1.609	0					0.95
46.250	0.00	1.80	1.597	0					0.94
46.333	0.00	1.79	1.584	0					0.94
46.417	0.00	1.77	1.572	0					0.93
46.500	0.00	1.76	1.560	0					0.92
46.583	0.00	1.75	1.548	0					0.91

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	1.73	1.536	0					0.91
46.750	0.00	1.72	1.524	0					0.90
46.833	0.00	1.71	1.512	0					0.89
46.917	0.00	1.69	1.500	0					0.89
47.000	0.00	1.68	1.489	0					0.88
47.083	0.00	1.67	1.477	0					0.87
47.167	0.00	1.65	1.466	0					0.87
47.250	0.00	1.64	1.454	0					0.86
47.333	0.00	1.63	1.443	0					0.85
47.417	0.00	1.62	1.432	0					0.85
47.500	0.00	1.60	1.421	0					0.84
47.583	0.00	1.59	1.410	0					0.83
47.667	0.00	1.58	1.399	0					0.83
47.750	0.00	1.57	1.388	0					0.82
47.833	0.00	1.55	1.377	0					0.81
47.917	0.00	1.54	1.367	0					0.81
48.000	0.00	1.53	1.356	0					0.80
48.083	0.00	1.52	1.346	0					0.79
48.167	0.00	1.51	1.335	0					0.79
48.250	0.00	1.49	1.325	0					0.78
48.333	0.00	1.48	1.315	0					0.78
48.417	0.00	1.47	1.304	0					0.77
48.500	0.00	1.46	1.294	0					0.76
48.583	0.00	1.45	1.284	0					0.76
48.667	0.00	1.44	1.274	0					0.75
48.750	0.00	1.43	1.265	0					0.75
48.833	0.00	1.42	1.255	0					0.74
48.917	0.00	1.40	1.245	0					0.74
49.000	0.00	1.39	1.235	0					0.73
49.083	0.00	1.38	1.226	0					0.72
49.167	0.00	1.37	1.216	0					0.72
49.250	0.00	1.36	1.207	0					0.71
49.333	0.00	1.35	1.198	0					0.71
49.417	0.00	1.34	1.188	0					0.70
49.500	0.00	1.33	1.179	0					0.70
49.583	0.00	1.32	1.170	0					0.69
49.667	0.00	1.31	1.161	0					0.69
49.750	0.00	1.30	1.152	0					0.68
49.833	0.00	1.29	1.143	0					0.68
49.917	0.00	1.28	1.134	0					0.67
50.000	0.00	1.27	1.125	0					0.66
50.083	0.00	1.26	1.117	0					0.66
50.167	0.00	1.25	1.108	0					0.65
50.250	0.00	1.24	1.100	0					0.65
50.333	0.00	1.23	1.091	0					0.64
50.417	0.00	1.22	1.083	0					0.64
50.500	0.00	1.21	1.074	0					0.63
50.583	0.00	1.20	1.066	0					0.63
50.667	0.00	1.19	1.058	0					0.62
50.750	0.00	1.18	1.049	0					0.62
50.833	0.00	1.17	1.041	0					0.62
50.917	0.00	1.17	1.033	0					0.61
51.000	0.00	1.16	1.025	0					0.61
51.083	0.00	1.15	1.017	0					0.60
51.167	0.00	1.14	1.009	0					0.60
51.250	0.00	1.13	1.002	0					0.59
51.333	0.00	1.12	0.994	0					0.59
51.417	0.00	1.11	0.986	0					0.58
51.500	0.00	1.10	0.979	0					0.58
51.583	0.00	1.10	0.971	0					0.57
51.667	0.00	1.09	0.963	0					0.57
51.750	0.00	1.08	0.956	0					0.56
51.833	0.00	1.07	0.949	0					0.56

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	1.06	0.941	0					0.56
52.000	0.00	1.05	0.934	0					0.55
52.083	0.00	1.05	0.927	0					0.55
52.167	0.00	1.04	0.920	0					0.54
52.250	0.00	1.03	0.912	0					0.54
52.333	0.00	1.02	0.905	0					0.53
52.417	0.00	1.01	0.898	0					0.53
52.500	0.00	1.01	0.891	0					0.53
52.583	0.00	1.00	0.885	0					0.52
52.667	0.00	0.99	0.878	0					0.52
52.750	0.00	0.98	0.871	0					0.51
52.833	0.00	0.97	0.864	0					0.51
52.917	0.00	0.97	0.857	0					0.51
53.000	0.00	0.96	0.851	0					0.50
53.083	0.00	0.95	0.844	0					0.50
53.167	0.00	0.95	0.838	0					0.49
53.250	0.00	0.94	0.831	0					0.49
53.333	0.00	0.93	0.825	0					0.49
53.417	0.00	0.92	0.818	0					0.48
53.500	0.00	0.92	0.812	0					0.48
53.583	0.00	0.91	0.806	0					0.48
53.667	0.00	0.90	0.800	0					0.47
53.750	0.00	0.90	0.793	0					0.47
53.833	0.00	0.89	0.787	0					0.46
53.917	0.00	0.88	0.781	0					0.46
54.000	0.00	0.87	0.775	0					0.46
54.083	0.00	0.87	0.769	0					0.45
54.167	0.00	0.86	0.763	0					0.45
54.250	0.00	0.85	0.757	0					0.45
54.333	0.00	0.85	0.751	0					0.44
54.417	0.00	0.84	0.746	0					0.44
54.500	0.00	0.83	0.740	0					0.44
54.583	0.00	0.83	0.734	0					0.43
54.667	0.00	0.82	0.728	0					0.43
54.750	0.00	0.82	0.723	0					0.43
54.833	0.00	0.81	0.717	0					0.42
54.917	0.00	0.80	0.712	0					0.42
55.000	0.00	0.80	0.706	0					0.42
55.083	0.00	0.79	0.701	0					0.41
55.167	0.00	0.78	0.695	0					0.41
55.250	0.00	0.78	0.690	0					0.41
55.333	0.00	0.77	0.684	0					0.40
55.417	0.00	0.77	0.679	0					0.40
55.500	0.00	0.76	0.674	0					0.40
55.583	0.00	0.75	0.669	0					0.39
55.667	0.00	0.75	0.664	0					0.39
55.750	0.00	0.74	0.658	0					0.39
55.833	0.00	0.74	0.653	0					0.39
55.917	0.00	0.73	0.648	0					0.38
56.000	0.00	0.73	0.643	0					0.38
56.083	0.00	0.72	0.638	0					0.38
56.167	0.00	0.71	0.633	0					0.37
56.250	0.00	0.71	0.628	0					0.37
56.333	0.00	0.70	0.624	0					0.37
56.417	0.00	0.70	0.619	0					0.37
56.500	0.00	0.69	0.614	0					0.36
56.583	0.00	0.69	0.609	0					0.36
56.667	0.00	0.68	0.604	0					0.36
56.750	0.00	0.68	0.600	0					0.35
56.833	0.00	0.67	0.595	0					0.35
56.917	0.00	0.67	0.591	0					0.35
57.000	0.00	0.66	0.586	0					0.35
57.083	0.00	0.66	0.581	0					0.34

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.65	0.577	0					0.34
57.250	0.00	0.65	0.572	0					0.34
57.333	0.00	0.64	0.568	0					0.34
57.417	0.00	0.64	0.564	0					0.33
57.500	0.00	0.63	0.559	0					0.33
57.583	0.00	0.63	0.555	0					0.33
57.667	0.00	0.62	0.551	0					0.33
57.750	0.00	0.62	0.546	0					0.32
57.833	0.00	0.61	0.542	0					0.32
57.917	0.00	0.61	0.538	0					0.32
58.000	0.00	0.60	0.534	0					0.32
58.083	0.00	0.60	0.530	0					0.31
58.167	0.00	0.59	0.526	0					0.31
58.250	0.00	0.59	0.522	0					0.31
58.333	0.00	0.58	0.517	0					0.31
58.417	0.00	0.58	0.513	0					0.30
58.500	0.00	0.57	0.509	0					0.30
58.583	0.00	0.57	0.506	0					0.30
58.667	0.00	0.57	0.502	0					0.30
58.750	0.00	0.56	0.498	0					0.29
58.833	0.00	0.56	0.494	0					0.29
58.917	0.00	0.55	0.490	0					0.29
59.000	0.00	0.55	0.486	0					0.29
59.083	0.00	0.54	0.483	0					0.29
59.167	0.00	0.54	0.479	0					0.28
59.250	0.00	0.54	0.475	0					0.28
59.333	0.00	0.53	0.471	0					0.28
59.417	0.00	0.53	0.468	0					0.28
59.500	0.00	0.52	0.464	0					0.27
59.583	0.00	0.52	0.461	0					0.27
59.667	0.00	0.52	0.457	0					0.27
59.750	0.00	0.51	0.453	0					0.27
59.833	0.00	0.51	0.450	0					0.27
59.917	0.00	0.50	0.446	0					0.26
60.000	0.00	0.50	0.443	0					0.26
60.083	0.00	0.50	0.440	0					0.26
60.167	0.00	0.49	0.436	0					0.26
60.250	0.00	0.49	0.433	0					0.26
60.333	0.00	0.48	0.429	0					0.25
60.417	0.00	0.48	0.426	0					0.25
60.500	0.00	0.48	0.423	0					0.25
60.583	0.00	0.47	0.420	0					0.25
60.667	0.00	0.47	0.416	0					0.25
60.750	0.00	0.47	0.413	0					0.24
60.833	0.00	0.46	0.410	0					0.24
60.917	0.00	0.46	0.407	0					0.24
61.000	0.00	0.46	0.404	0					0.24
61.083	0.00	0.45	0.400	0					0.24
61.167	0.00	0.45	0.397	0					0.23
61.250	0.00	0.44	0.394	0					0.23
61.333	0.00	0.44	0.391	0					0.23
61.417	0.00	0.44	0.388	0					0.23
61.500	0.00	0.43	0.385	0					0.23
61.583	0.00	0.43	0.382	0					0.23
61.667	0.00	0.43	0.379	0					0.22
61.750	0.00	0.42	0.376	0					0.22
61.833	0.00	0.42	0.373	0					0.22
61.917	0.00	0.42	0.370	0					0.22
62.000	0.00	0.41	0.368	0					0.22
62.083	0.00	0.41	0.365	0					0.22
62.167	0.00	0.41	0.362	0					0.21
62.250	0.00	0.41	0.359	0					0.21
62.333	0.00	0.40	0.356	0					0.21

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.40	0.354	0					0.21
62.500	0.00	0.40	0.351	0					0.21
62.583	0.00	0.39	0.348	0					0.21
62.667	0.00	0.39	0.345	0					0.20
62.750	0.00	0.39	0.343	0					0.20
62.833	0.00	0.38	0.340	0					0.20
62.917	0.00	0.38	0.338	0					0.20
63.000	0.00	0.38	0.335	0					0.20
63.083	0.00	0.37	0.332	0					0.20
63.167	0.00	0.37	0.330	0					0.19
63.250	0.00	0.37	0.327	0					0.19
63.333	0.00	0.37	0.325	0					0.19
63.417	0.00	0.36	0.322	0					0.19
63.500	0.00	0.36	0.320	0					0.19
63.583	0.00	0.36	0.317	0					0.19
63.667	0.00	0.36	0.315	0					0.19
63.750	0.00	0.35	0.312	0					0.18
63.833	0.00	0.35	0.310	0					0.18
63.917	0.00	0.35	0.307	0					0.18
64.000	0.00	0.34	0.305	0					0.18
64.083	0.00	0.34	0.303	0					0.18
64.167	0.00	0.34	0.300	0					0.18
64.250	0.00	0.34	0.298	0					0.18
64.333	0.00	0.33	0.296	0					0.17
64.417	0.00	0.33	0.293	0					0.17
64.500	0.00	0.33	0.291	0					0.17
64.583	0.00	0.33	0.289	0					0.17
64.667	0.00	0.32	0.287	0					0.17
64.750	0.00	0.32	0.284	0					0.17
64.833	0.00	0.32	0.282	0					0.17
64.917	0.00	0.32	0.280	0					0.17
65.000	0.00	0.31	0.278	0					0.16
65.083	0.00	0.31	0.276	0					0.16
65.167	0.00	0.31	0.274	0					0.16
65.250	0.00	0.31	0.272	0					0.16
65.333	0.00	0.30	0.269	0					0.16
65.417	0.00	0.30	0.267	0					0.16
65.500	0.00	0.30	0.265	0					0.16
65.583	0.00	0.30	0.263	0					0.16
65.667	0.00	0.29	0.261	0					0.15
65.750	0.00	0.29	0.259	0					0.15
65.833	0.00	0.29	0.257	0					0.15
65.917	0.00	0.29	0.255	0					0.15
66.000	0.00	0.29	0.253	0					0.15
66.083	0.00	0.28	0.251	0					0.15
66.167	0.00	0.28	0.249	0					0.15
66.250	0.00	0.28	0.247	0					0.15
66.333	0.00	0.28	0.245	0					0.14
66.417	0.00	0.27	0.244	0					0.14
66.500	0.00	0.27	0.242	0					0.14
66.583	0.00	0.27	0.240	0					0.14
66.667	0.00	0.27	0.238	0					0.14
66.750	0.00	0.27	0.236	0					0.14
66.833	0.00	0.26	0.234	0					0.14
66.917	0.00	0.26	0.232	0					0.14
67.000	0.00	0.26	0.231	0					0.14
67.083	0.00	0.26	0.229	0					0.14
67.167	0.00	0.26	0.227	0					0.13
67.250	0.00	0.25	0.225	0					0.13
67.333	0.00	0.25	0.224	0					0.13
67.417	0.00	0.25	0.222	0					0.13
67.500	0.00	0.25	0.220	0					0.13
67.583	0.00	0.25	0.218	0					0.13

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.24	0.217	o					0.13
67.750	0.00	0.24	0.215	o					0.13
67.833	0.00	0.24	0.213	o					0.13
67.917	0.00	0.24	0.212	o					0.13
68.000	0.00	0.24	0.210	o					0.12
68.083	0.00	0.24	0.208	o					0.12
68.167	0.00	0.23	0.207	o					0.12
68.250	0.00	0.23	0.205	o					0.12
68.333	0.00	0.23	0.204	o					0.12
68.417	0.00	0.23	0.202	o					0.12
68.500	0.00	0.23	0.201	o					0.12
68.583	0.00	0.22	0.199	o					0.12
68.667	0.00	0.22	0.197	o					0.12
68.750	0.00	0.22	0.196	o					0.12
68.833	0.00	0.22	0.194	o					0.11
68.917	0.00	0.22	0.193	o					0.11
69.000	0.00	0.22	0.191	o					0.11
69.083	0.00	0.21	0.190	o					0.11
69.167	0.00	0.21	0.188	o					0.11
69.250	0.00	0.21	0.187	o					0.11
69.333	0.00	0.21	0.186	o					0.11
69.417	0.00	0.21	0.184	o					0.11
69.500	0.00	0.21	0.183	o					0.11
69.583	0.00	0.20	0.181	o					0.11
69.667	0.00	0.20	0.180	o					0.11
69.750	0.00	0.20	0.178	o					0.11
69.833	0.00	0.20	0.177	o					0.10
69.917	0.00	0.20	0.176	o					0.10
70.000	0.00	0.20	0.174	o					0.10
70.083	0.00	0.20	0.173	o					0.10
70.167	0.00	0.19	0.172	o					0.10
70.250	0.00	0.19	0.170	o					0.10
70.333	0.00	0.19	0.169	o					0.10
70.417	0.00	0.19	0.168	o					0.10
70.500	0.00	0.19	0.166	o					0.10
70.583	0.00	0.19	0.165	o					0.10
70.667	0.00	0.18	0.164	o					0.10
70.750	0.00	0.18	0.163	o					0.10
70.833	0.00	0.18	0.161	o					0.10
70.917	0.00	0.18	0.160	o					0.09
71.000	0.00	0.18	0.159	o					0.09
71.083	0.00	0.18	0.158	o					0.09
71.167	0.00	0.18	0.156	o					0.09
71.250	0.00	0.18	0.155	o					0.09
71.333	0.00	0.17	0.154	o					0.09
71.417	0.00	0.17	0.153	o					0.09
71.500	0.00	0.17	0.152	o					0.09
71.583	0.00	0.17	0.150	o					0.09
71.667	0.00	0.17	0.149	o					0.09
71.750	0.00	0.17	0.148	o					0.09
71.833	0.00	0.17	0.147	o					0.09
71.917	0.00	0.16	0.146	o					0.09
72.000	0.00	0.16	0.145	o					0.09
72.083	0.00	0.16	0.144	o					0.08
72.167	0.00	0.16	0.142	o					0.08
72.250	0.00	0.16	0.141	o					0.08
72.333	0.00	0.16	0.140	o					0.08
72.417	0.00	0.16	0.139	o					0.08
72.500	0.00	0.16	0.138	o					0.08
72.583	0.00	0.15	0.137	o					0.08
72.667	0.00	0.15	0.136	o					0.08
72.750	0.00	0.15	0.135	o					0.08
72.833	0.00	0.15	0.134	o					0.08

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.15	0.133	0					0.08
73.000	0.00	0.15	0.132	0					0.08
73.083	0.00	0.15	0.131	0					0.08
73.167	0.00	0.15	0.130	0					0.08
73.250	0.00	0.15	0.129	0					0.08
73.333	0.00	0.14	0.128	0					0.08
73.417	0.00	0.14	0.127	0					0.07
73.500	0.00	0.14	0.126	0					0.07
73.583	0.00	0.14	0.125	0					0.07
73.667	0.00	0.14	0.124	0					0.07
73.750	0.00	0.14	0.123	0					0.07
73.833	0.00	0.14	0.122	0					0.07
73.917	0.00	0.14	0.121	0					0.07
74.000	0.00	0.14	0.120	0					0.07
74.083	0.00	0.13	0.119	0					0.07
74.167	0.00	0.13	0.118	0					0.07
74.250	0.00	0.13	0.117	0					0.07
74.333	0.00	0.13	0.116	0					0.07
74.417	0.00	0.13	0.116	0					0.07
74.500	0.00	0.13	0.115	0					0.07
74.583	0.00	0.13	0.114	0					0.07
74.667	0.00	0.13	0.113	0					0.07
74.750	0.00	0.13	0.112	0					0.07
74.833	0.00	0.13	0.111	0					0.07
74.917	0.00	0.12	0.110	0					0.07
75.000	0.00	0.12	0.109	0					0.06
75.083	0.00	0.12	0.109	0					0.06
75.167	0.00	0.12	0.108	0					0.06
75.250	0.00	0.12	0.107	0					0.06
75.333	0.00	0.12	0.106	0					0.06
75.417	0.00	0.12	0.105	0					0.06
75.500	0.00	0.12	0.104	0					0.06
75.583	0.00	0.12	0.104	0					0.06
75.667	0.00	0.12	0.103	0					0.06
75.750	0.00	0.12	0.102	0					0.06
75.833	0.00	0.11	0.101	0					0.06
75.917	0.00	0.11	0.100	0					0.06
76.000	0.00	0.11	0.100	0					0.06
76.083	0.00	0.11	0.099	0					0.06
76.167	0.00	0.11	0.098	0					0.06
76.250	0.00	0.11	0.097	0					0.06
76.333	0.00	0.11	0.097	0					0.06
76.417	0.00	0.11	0.096	0					0.06
76.500	0.00	0.11	0.095	0					0.06
76.583	0.00	0.11	0.094	0					0.06
76.667	0.00	0.11	0.094	0					0.06
76.750	0.00	0.10	0.093	0					0.05
76.833	0.00	0.10	0.092	0					0.05
76.917	0.00	0.10	0.091	0					0.05
77.000	0.00	0.10	0.091	0					0.05
77.083	0.00	0.10	0.090	0					0.05
77.167	0.00	0.10	0.089	0					0.05
77.250	0.00	0.10	0.089	0					0.05
77.333	0.00	0.10	0.088	0					0.05
77.417	0.00	0.10	0.087	0					0.05
77.500	0.00	0.10	0.087	0					0.05
77.583	0.00	0.10	0.086	0					0.05
77.667	0.00	0.10	0.085	0					0.05
77.750	0.00	0.10	0.085	0					0.05
77.833	0.00	0.09	0.084	0					0.05
77.917	0.00	0.09	0.083	0					0.05
78.000	0.00	0.09	0.083	0					0.05
78.083	0.00	0.09	0.082	0					0.05



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.09	0.081	o					0.05
78.250	0.00	0.09	0.081	o					0.05
78.333	0.00	0.09	0.080	o					0.05
78.417	0.00	0.09	0.080	o					0.05
78.500	0.00	0.09	0.079	o					0.05
78.583	0.00	0.09	0.078	o					0.05
78.667	0.00	0.09	0.078	o					0.05
78.750	0.00	0.09	0.077	o					0.05
78.833	0.00	0.09	0.077	o					0.05
78.917	0.00	0.09	0.076	o					0.04
79.000	0.00	0.08	0.075	o					0.04
79.083	0.00	0.08	0.075	o					0.04
79.167	0.00	0.08	0.074	o					0.04
79.250	0.00	0.08	0.074	o					0.04
79.333	0.00	0.08	0.073	o					0.04
79.417	0.00	0.08	0.072	o					0.04
79.500	0.00	0.08	0.072	o					0.04
79.583	0.00	0.08	0.071	o					0.04
79.667	0.00	0.08	0.071	o					0.04
79.750	0.00	0.08	0.070	o					0.04
79.833	0.00	0.08	0.070	o					0.04
79.917	0.00	0.08	0.069	o					0.04
80.000	0.00	0.08	0.069	o					0.04
80.083	0.00	0.08	0.068	o					0.04
80.167	0.00	0.08	0.068	o					0.04
80.250	0.00	0.08	0.067	o					0.04
80.333	0.00	0.08	0.067	o					0.04
80.417	0.00	0.07	0.066	o					0.04
80.500	0.00	0.07	0.066	o					0.04
80.583	0.00	0.07	0.065	o					0.04
80.667	0.00	0.07	0.064	o					0.04
80.750	0.00	0.07	0.064	o					0.04
80.833	0.00	0.07	0.064	o					0.04
80.917	0.00	0.07	0.063	o					0.04
81.000	0.00	0.07	0.063	o					0.04
81.083	0.00	0.07	0.062	o					0.04
81.167	0.00	0.07	0.062	o					0.04
81.250	0.00	0.07	0.061	o					0.04
81.333	0.00	0.07	0.061	o					0.04
81.417	0.00	0.07	0.060	o					0.04
81.500	0.00	0.07	0.060	o					0.04
81.583	0.00	0.07	0.059	o					0.03
81.667	0.00	0.07	0.059	o					0.03
81.750	0.00	0.07	0.058	o					0.03
81.833	0.00	0.07	0.058	o					0.03
81.917	0.00	0.06	0.057	o					0.03
82.000	0.00	0.06	0.057	o					0.03
82.083	0.00	0.06	0.057	o					0.03
82.167	0.00	0.06	0.056	o					0.03
82.250	0.00	0.06	0.056	o					0.03
82.333	0.00	0.06	0.055	o					0.03
82.417	0.00	0.06	0.055	o					0.03
82.500	0.00	0.06	0.054	o					0.03
82.583	0.00	0.06	0.054	o					0.03
82.667	0.00	0.06	0.054	o					0.03
82.750	0.00	0.06	0.053	o					0.03
82.833	0.00	0.06	0.053	o					0.03
82.917	0.00	0.06	0.052	o					0.03
83.000	0.00	0.06	0.052	o					0.03
83.083	0.00	0.06	0.051	o					0.03
83.167	0.00	0.06	0.051	o					0.03
83.250	0.00	0.06	0.051	o					0.03
83.333	0.00	0.06	0.050	o					0.03

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.06	0.050	0					0.03
83.500	0.00	0.06	0.050	0					0.03
83.583	0.00	0.06	0.049	0					0.03
83.667	0.00	0.06	0.049	0					0.03
83.750	0.00	0.05	0.048	0					0.03
83.833	0.00	0.05	0.048	0					0.03
83.917	0.00	0.05	0.048	0					0.03
84.000	0.00	0.05	0.047	0					0.03
84.083	0.00	0.05	0.047	0					0.03
84.167	0.00	0.05	0.047	0					0.03
84.250	0.00	0.05	0.046	0					0.03
84.333	0.00	0.05	0.046	0					0.03
84.417	0.00	0.05	0.045	0					0.03
84.500	0.00	0.05	0.045	0					0.03
84.583	0.00	0.05	0.045	0					0.03
84.667	0.00	0.05	0.044	0					0.03
84.750	0.00	0.05	0.044	0					0.03
84.833	0.00	0.05	0.044	0					0.03
84.917	0.00	0.05	0.043	0					0.03
85.000	0.00	0.05	0.043	0					0.03
85.083	0.00	0.05	0.043	0					0.03
85.167	0.00	0.05	0.042	0					0.03
85.250	0.00	0.05	0.042	0					0.02
85.333	0.00	0.05	0.042	0					0.02
85.417	0.00	0.05	0.041	0					0.02
85.500	0.00	0.05	0.041	0					0.02
85.583	0.00	0.05	0.041	0					0.02
85.667	0.00	0.05	0.040	0					0.02
85.750	0.00	0.05	0.040	0					0.02
85.833	0.00	0.04	0.040	0					0.02
85.917	0.00	0.04	0.040	0					0.02
86.000	0.00	0.04	0.039	0					0.02
86.083	0.00	0.04	0.039	0					0.02
86.167	0.00	0.04	0.039	0					0.02
86.250	0.00	0.04	0.038	0					0.02
86.333	0.00	0.04	0.038	0					0.02
86.417	0.00	0.04	0.038	0					0.02
86.500	0.00	0.04	0.037	0					0.02
86.583	0.00	0.04	0.037	0					0.02
86.667	0.00	0.04	0.037	0					0.02
86.750	0.00	0.04	0.037	0					0.02
86.833	0.00	0.04	0.036	0					0.02
86.917	0.00	0.04	0.036	0					0.02
87.000	0.00	0.04	0.036	0					0.02
87.083	0.00	0.04	0.035	0					0.02
87.167	0.00	0.04	0.035	0					0.02
87.250	0.00	0.04	0.035	0					0.02
87.333	0.00	0.04	0.035	0					0.02
87.417	0.00	0.04	0.034	0					0.02
87.500	0.00	0.04	0.034	0					0.02
87.583	0.00	0.04	0.034	0					0.02
87.667	0.00	0.04	0.034	0					0.02
87.750	0.00	0.04	0.033	0					0.02
87.833	0.00	0.04	0.033	0					0.02
87.917	0.00	0.04	0.033	0					0.02
88.000	0.00	0.04	0.033	0					0.02
88.083	0.00	0.04	0.032	0					0.02
88.167	0.00	0.04	0.032	0					0.02
88.250	0.00	0.04	0.032	0					0.02
88.333	0.00	0.04	0.032	0					0.02
88.417	0.00	0.04	0.031	0					0.02
88.500	0.00	0.04	0.031	0					0.02
88.583	0.00	0.03	0.031	0					0.02

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## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.03	0.031	o					0.02
88.750	0.00	0.03	0.030	o					0.02
88.833	0.00	0.03	0.030	o					0.02
88.917	0.00	0.03	0.030	o					0.02
89.000	0.00	0.03	0.030	o					0.02
89.083	0.00	0.03	0.029	o					0.02
89.167	0.00	0.03	0.029	o					0.02
89.250	0.00	0.03	0.029	o					0.02
89.333	0.00	0.03	0.029	o					0.02
89.417	0.00	0.03	0.029	o					0.02
89.500	0.00	0.03	0.028	o					0.02
89.583	0.00	0.03	0.028	o					0.02
89.667	0.00	0.03	0.028	o					0.02
89.750	0.00	0.03	0.028	o					0.02
89.833	0.00	0.03	0.027	o					0.02
89.917	0.00	0.03	0.027	o					0.02
90.000	0.00	0.03	0.027	o					0.02
90.083	0.00	0.03	0.027	o					0.02
90.167	0.00	0.03	0.027	o					0.02
90.250	0.00	0.03	0.026	o					0.02
90.333	0.00	0.03	0.026	o					0.02
90.417	0.00	0.03	0.026	o					0.02
90.500	0.00	0.03	0.026	o					0.02
90.583	0.00	0.03	0.026	o					0.02
90.667	0.00	0.03	0.025	o					0.01
90.750	0.00	0.03	0.025	o					0.01
90.833	0.00	0.03	0.025	o					0.01
90.917	0.00	0.03	0.025	o					0.01
91.000	0.00	0.03	0.025	o					0.01
91.083	0.00	0.03	0.024	o					0.01
91.167	0.00	0.03	0.024	o					0.01
91.250	0.00	0.03	0.024	o					0.01
91.333	0.00	0.03	0.024	o					0.01
91.417	0.00	0.03	0.024	o					0.01
91.500	0.00	0.03	0.023	o					0.01
91.583	0.00	0.03	0.023	o					0.01
91.667	0.00	0.03	0.023	o					0.01
91.750	0.00	0.03	0.023	o					0.01
91.833	0.00	0.03	0.023	o					0.01
91.917	0.00	0.03	0.023	o					0.01
92.000	0.00	0.03	0.022	o					0.01
92.083	0.00	0.03	0.022	o					0.01
92.167	0.00	0.02	0.022	o					0.01
92.250	0.00	0.02	0.022	o					0.01
92.333	0.00	0.02	0.022	o					0.01
92.417	0.00	0.02	0.022	o					0.01
92.500	0.00	0.02	0.021	o					0.01
92.583	0.00	0.02	0.021	o					0.01
92.667	0.00	0.02	0.021	o					0.01
92.750	0.00	0.02	0.021	o					0.01
92.833	0.00	0.02	0.021	o					0.01
92.917	0.00	0.02	0.021	o					0.01
93.000	0.00	0.02	0.020	o					0.01
93.083	0.00	0.02	0.020	o					0.01
93.167	0.00	0.02	0.020	o					0.01
93.250	0.00	0.02	0.020	o					0.01
93.333	0.00	0.02	0.020	o					0.01
93.417	0.00	0.02	0.020	o					0.01
93.500	0.00	0.02	0.019	o					0.01
93.583	0.00	0.02	0.019	o					0.01
93.667	0.00	0.02	0.019	o					0.01
93.750	0.00	0.02	0.019	o					0.01
93.833	0.00	0.02	0.019	o					0.01

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## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.02	0.019	o					0.01
94.000	0.00	0.02	0.019	o					0.01
94.083	0.00	0.02	0.018	o					0.01
94.167	0.00	0.02	0.018	o					0.01
94.250	0.00	0.02	0.018	o					0.01
94.333	0.00	0.02	0.018	o					0.01
94.417	0.00	0.02	0.018	o					0.01
94.500	0.00	0.02	0.018	o					0.01
94.583	0.00	0.02	0.018	o					0.01
94.667	0.00	0.02	0.017	o					0.01
94.750	0.00	0.02	0.017	o					0.01
94.833	0.00	0.02	0.017	o					0.01
94.917	0.00	0.02	0.017	o					0.01
95.000	0.00	0.02	0.017	o					0.01
95.083	0.00	0.02	0.017	o					0.01
95.167	0.00	0.02	0.017	o					0.01
95.250	0.00	0.02	0.017	o					0.01
95.333	0.00	0.02	0.016	o					0.01
95.417	0.00	0.02	0.016	o					0.01
95.500	0.00	0.02	0.016	o					0.01
95.583	0.00	0.02	0.016	o					0.01
95.667	0.00	0.02	0.016	o					0.01
95.750	0.00	0.02	0.016	o					0.01
95.833	0.00	0.02	0.016	o					0.01
95.917	0.00	0.02	0.016	o					0.01
96.000	0.00	0.02	0.015	o					0.01
96.083	0.00	0.02	0.015	o					0.01
96.167	0.00	0.02	0.015	o					0.01
96.250	0.00	0.02	0.015	o					0.01
96.333	0.00	0.02	0.015	o					0.01
96.417	0.00	0.02	0.015	o					0.01
96.500	0.00	0.02	0.015	o					0.01
96.583	0.00	0.02	0.015	o					0.01
96.667	0.00	0.02	0.015	o					0.01
96.750	0.00	0.02	0.014	o					0.01
96.833	0.00	0.02	0.014	o					0.01
96.917	0.00	0.02	0.014	o					0.01
97.000	0.00	0.02	0.014	o					0.01
97.083	0.00	0.02	0.014	o					0.01
97.167	0.00	0.02	0.014	o					0.01
97.250	0.00	0.02	0.014	o					0.01
97.333	0.00	0.02	0.014	o					0.01
97.417	0.00	0.02	0.014	o					0.01
97.500	0.00	0.02	0.013	o					0.01
97.583	0.00	0.02	0.013	o					0.01
97.667	0.00	0.01	0.013	o					0.01
97.750	0.00	0.01	0.013	o					0.01
97.833	0.00	0.01	0.013	o					0.01
97.917	0.00	0.01	0.013	o					0.01
98.000	0.00	0.01	0.013	o					0.01
98.083	0.00	0.01	0.013	o					0.01
98.167	0.00	0.01	0.013	o					0.01
98.250	0.00	0.01	0.013	o					0.01
98.333	0.00	0.01	0.012	o					0.01
98.417	0.00	0.01	0.012	o					0.01
98.500	0.00	0.01	0.012	o					0.01
98.583	0.00	0.01	0.012	o					0.01
98.667	0.00	0.01	0.012	o					0.01
98.750	0.00	0.01	0.012	o					0.01
98.833	0.00	0.01	0.012	o					0.01
98.917	0.00	0.01	0.012	o					0.01
99.000	0.00	0.01	0.012	o					0.01
99.083	0.00	0.01	0.012	o					0.01

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## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.01	0.011	o					0.01
99.250	0.00	0.01	0.011	o					0.01
99.333	0.00	0.01	0.011	o					0.01
99.417	0.00	0.01	0.011	o					0.01
99.500	0.00	0.01	0.011	o					0.01
99.583	0.00	0.01	0.011	o					0.01
99.667	0.00	0.01	0.011	o					0.01
99.750	0.00	0.01	0.011	o					0.01
99.833	0.00	0.01	0.011	o					0.01
99.917	0.00	0.01	0.011	o					0.01
100.000	0.00	0.01	0.011	o					0.01
100.083	0.00	0.01	0.011	o					0.01
100.167	0.00	0.01	0.010	o					0.01
100.250	0.00	0.01	0.010	o					0.01
100.333	0.00	0.01	0.010	o					0.01
100.417	0.00	0.01	0.010	o					0.01
100.500	0.00	0.01	0.010	o					0.01
100.583	0.00	0.01	0.010	o					0.01
100.667	0.00	0.01	0.010	o					0.01
100.750	0.00	0.01	0.010	o					0.01
100.833	0.00	0.01	0.010	o					0.01
100.917	0.00	0.01	0.010	o					0.01
101.000	0.00	0.01	0.010	o					0.01
101.083	0.00	0.01	0.010	o					0.01
101.167	0.00	0.01	0.010	o					0.01
101.250	0.00	0.01	0.009	o					0.01
101.333	0.00	0.01	0.009	o					0.01
101.417	0.00	0.01	0.009	o					0.01
101.500	0.00	0.01	0.009	o					0.01
101.583	0.00	0.01	0.009	o					0.01
101.667	0.00	0.01	0.009	o					0.01
101.750	0.00	0.01	0.009	o					0.01
101.833	0.00	0.01	0.009	o					0.01
101.917	0.00	0.01	0.009	o					0.01
102.000	0.00	0.01	0.009	o					0.01
102.083	0.00	0.01	0.009	o					0.01
102.167	0.00	0.01	0.009	o					0.01
102.250	0.00	0.01	0.009	o					0.01
102.333	0.00	0.01	0.009	o					0.01
102.417	0.00	0.01	0.008	o					0.01
102.500	0.00	0.01	0.008	o					0.00
102.583	0.00	0.01	0.008	o					0.00
102.667	0.00	0.01	0.008	o					0.00
102.750	0.00	0.01	0.008	o					0.00
102.833	0.00	0.01	0.008	o					0.00
102.917	0.00	0.01	0.008	o					0.00
103.000	0.00	0.01	0.008	o					0.00
103.083	0.00	0.01	0.008	o					0.00
103.167	0.00	0.01	0.008	o					0.00
103.250	0.00	0.01	0.008	o					0.00
103.333	0.00	0.01	0.008	o					0.00
103.417	0.00	0.01	0.008	o					0.00
103.500	0.00	0.01	0.008	o					0.00
103.583	0.00	0.01	0.008	o					0.00
103.667	0.00	0.01	0.008	o					0.00
103.750	0.00	0.01	0.007	o					0.00
103.833	0.00	0.01	0.007	o					0.00
103.917	0.00	0.01	0.007	o					0.00
104.000	0.00	0.01	0.007	o					0.00
104.083	0.00	0.01	0.007	o					0.00
104.167	0.00	0.01	0.007	o					0.00
104.250	0.00	0.01	0.007	o					0.00
104.333	0.00	0.01	0.007	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.01	0.007	o					0.00
104.500	0.00	0.01	0.007	o					0.00
104.583	0.00	0.01	0.007	o					0.00
104.667	0.00	0.01	0.007	o					0.00
104.750	0.00	0.01	0.007	o					0.00
104.833	0.00	0.01	0.007	o					0.00
104.917	0.00	0.01	0.007	o					0.00
105.000	0.00	0.01	0.007	o					0.00
105.083	0.00	0.01	0.007	o					0.00
105.167	0.00	0.01	0.007	o					0.00
105.250	0.00	0.01	0.007	o					0.00
105.333	0.00	0.01	0.006	o					0.00
105.417	0.00	0.01	0.006	o					0.00
105.500	0.00	0.01	0.006	o					0.00
105.583	0.00	0.01	0.006	o					0.00
105.667	0.00	0.01	0.006	o					0.00
105.750	0.00	0.01	0.006	o					0.00
105.833	0.00	0.01	0.006	o					0.00
105.917	0.00	0.01	0.006	o					0.00
106.000	0.00	0.01	0.006	o					0.00
106.083	0.00	0.01	0.006	o					0.00
106.167	0.00	0.01	0.006	o					0.00
106.250	0.00	0.01	0.006	o					0.00
106.333	0.00	0.01	0.006	o					0.00
106.417	0.00	0.01	0.006	o					0.00
106.500	0.00	0.01	0.006	o					0.00
106.583	0.00	0.01	0.006	o					0.00
106.667	0.00	0.01	0.006	o					0.00
106.750	0.00	0.01	0.006	o					0.00
106.833	0.00	0.01	0.006	o					0.00
106.917	0.00	0.01	0.006	o					0.00
107.000	0.00	0.01	0.006	o					0.00
107.083	0.00	0.01	0.005	o					0.00
107.167	0.00	0.01	0.005	o					0.00
107.250	0.00	0.01	0.005	o					0.00
107.333	0.00	0.01	0.005	o					0.00
107.417	0.00	0.01	0.005	o					0.00
107.500	0.00	0.01	0.005	o					0.00
107.583	0.00	0.01	0.005	o					0.00
107.667	0.00	0.01	0.005	o					0.00
107.750	0.00	0.01	0.005	o					0.00
107.833	0.00	0.01	0.005	o					0.00
107.917	0.00	0.01	0.005	o					0.00
108.000	0.00	0.01	0.005	o					0.00
108.083	0.00	0.01	0.005	o					0.00
108.167	0.00	0.01	0.005	o					0.00
108.250	0.00	0.01	0.005	o					0.00
108.333	0.00	0.01	0.005	o					0.00
108.417	0.00	0.01	0.005	o					0.00
108.500	0.00	0.01	0.005	o					0.00
108.583	0.00	0.01	0.005	o					0.00
108.667	0.00	0.01	0.005	o					0.00
108.750	0.00	0.01	0.005	o					0.00
108.833	0.00	0.01	0.005	o					0.00
108.917	0.00	0.01	0.005	o					0.00
109.000	0.00	0.01	0.005	o					0.00
109.083	0.00	0.01	0.005	o					0.00
109.167	0.00	0.01	0.005	o					0.00
109.250	0.00	0.01	0.004	o					0.00
109.333	0.00	0.01	0.004	o					0.00
109.417	0.00	0.00	0.004	o					0.00
109.500	0.00	0.00	0.004	o					0.00
109.583	0.00	0.00	0.004	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.00	0.004	o					0.00
109.750	0.00	0.00	0.004	o					0.00
109.833	0.00	0.00	0.004	o					0.00
109.917	0.00	0.00	0.004	o					0.00
110.000	0.00	0.00	0.004	o					0.00
110.083	0.00	0.00	0.004	o					0.00
110.167	0.00	0.00	0.004	o					0.00
110.250	0.00	0.00	0.004	o					0.00
110.333	0.00	0.00	0.004	o					0.00
110.417	0.00	0.00	0.004	o					0.00
110.500	0.00	0.00	0.004	o					0.00
110.583	0.00	0.00	0.004	o					0.00
110.667	0.00	0.00	0.004	o					0.00
110.750	0.00	0.00	0.004	o					0.00
110.833	0.00	0.00	0.004	o					0.00
110.917	0.00	0.00	0.004	o					0.00
111.000	0.00	0.00	0.004	o					0.00
111.083	0.00	0.00	0.004	o					0.00
111.167	0.00	0.00	0.004	o					0.00
111.250	0.00	0.00	0.004	o					0.00
111.333	0.00	0.00	0.004	o					0.00
111.417	0.00	0.00	0.004	o					0.00
111.500	0.00	0.00	0.004	o					0.00
111.583	0.00	0.00	0.004	o					0.00
111.667	0.00	0.00	0.004	o					0.00
111.750	0.00	0.00	0.004	o					0.00
111.833	0.00	0.00	0.004	o					0.00
111.917	0.00	0.00	0.004	o					0.00
112.000	0.00	0.00	0.003	o					0.00
112.083	0.00	0.00	0.003	o					0.00
112.167	0.00	0.00	0.003	o					0.00
112.250	0.00	0.00	0.003	o					0.00
112.333	0.00	0.00	0.003	o					0.00
112.417	0.00	0.00	0.003	o					0.00
112.500	0.00	0.00	0.003	o					0.00
112.583	0.00	0.00	0.003	o					0.00
112.667	0.00	0.00	0.003	o					0.00
112.750	0.00	0.00	0.003	o					0.00
112.833	0.00	0.00	0.003	o					0.00
112.917	0.00	0.00	0.003	o					0.00
113.000	0.00	0.00	0.003	o					0.00
113.083	0.00	0.00	0.003	o					0.00
113.167	0.00	0.00	0.003	o					0.00
113.250	0.00	0.00	0.003	o					0.00
113.333	0.00	0.00	0.003	o					0.00
113.417	0.00	0.00	0.003	o					0.00
113.500	0.00	0.00	0.003	o					0.00
113.583	0.00	0.00	0.003	o					0.00
113.667	0.00	0.00	0.003	o					0.00
113.750	0.00	0.00	0.003	o					0.00
113.833	0.00	0.00	0.003	o					0.00
113.917	0.00	0.00	0.003	o					0.00
114.000	0.00	0.00	0.003	o					0.00
114.083	0.00	0.00	0.003	o					0.00
114.167	0.00	0.00	0.003	o					0.00
114.250	0.00	0.00	0.003	o					0.00
114.333	0.00	0.00	0.003	o					0.00
114.417	0.00	0.00	0.003	o					0.00
114.500	0.00	0.00	0.003	o					0.00
114.583	0.00	0.00	0.003	o					0.00
114.667	0.00	0.00	0.003	o					0.00
114.750	0.00	0.00	0.003	o					0.00
114.833	0.00	0.00	0.003	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

114.917	0.00	0.00	0.003	0					0.00
115.000	0.00	0.00	0.003	0					0.00
115.083	0.00	0.00	0.003	0					0.00
115.167	0.00	0.00	0.003	0					0.00
115.250	0.00	0.00	0.003	0					0.00
115.333	0.00	0.00	0.003	0					0.00
115.417	0.00	0.00	0.003	0					0.00
115.500	0.00	0.00	0.003	0					0.00
115.583	0.00	0.00	0.002	0					0.00
115.667	0.00	0.00	0.002	0					0.00
115.750	0.00	0.00	0.002	0					0.00
115.833	0.00	0.00	0.002	0					0.00
115.917	0.00	0.00	0.002	0					0.00
116.000	0.00	0.00	0.002	0					0.00
116.083	0.00	0.00	0.002	0					0.00
116.167	0.00	0.00	0.002	0					0.00
116.250	0.00	0.00	0.002	0					0.00
116.333	0.00	0.00	0.002	0					0.00
116.417	0.00	0.00	0.002	0					0.00
116.500	0.00	0.00	0.002	0					0.00
116.583	0.00	0.00	0.002	0					0.00
116.667	0.00	0.00	0.002	0					0.00
116.750	0.00	0.00	0.002	0					0.00
116.833	0.00	0.00	0.002	0					0.00
116.917	0.00	0.00	0.002	0					0.00
117.000	0.00	0.00	0.002	0					0.00
117.083	0.00	0.00	0.002	0					0.00
117.167	0.00	0.00	0.002	0					0.00
117.250	0.00	0.00	0.002	0					0.00
117.333	0.00	0.00	0.002	0					0.00
117.417	0.00	0.00	0.002	0					0.00
117.500	0.00	0.00	0.002	0					0.00
117.583	0.00	0.00	0.002	0					0.00
117.667	0.00	0.00	0.002	0					0.00
117.750	0.00	0.00	0.002	0					0.00
117.833	0.00	0.00	0.002	0					0.00
117.917	0.00	0.00	0.002	0					0.00
118.000	0.00	0.00	0.002	0					0.00
118.083	0.00	0.00	0.002	0					0.00
118.167	0.00	0.00	0.002	0					0.00
118.250	0.00	0.00	0.002	0					0.00
118.333	0.00	0.00	0.002	0					0.00
118.417	0.00	0.00	0.002	0					0.00
118.500	0.00	0.00	0.002	0					0.00
118.583	0.00	0.00	0.002	0					0.00
118.667	0.00	0.00	0.002	0					0.00
118.750	0.00	0.00	0.002	0					0.00
118.833	0.00	0.00	0.002	0					0.00
118.917	0.00	0.00	0.002	0					0.00
119.000	0.00	0.00	0.002	0					0.00
119.083	0.00	0.00	0.002	0					0.00
119.167	0.00	0.00	0.002	0					0.00
119.250	0.00	0.00	0.002	0					0.00
119.333	0.00	0.00	0.002	0					0.00
119.417	0.00	0.00	0.002	0					0.00
119.500	0.00	0.00	0.002	0					0.00
119.583	0.00	0.00	0.002	0					0.00
119.667	0.00	0.00	0.002	0					0.00
119.750	0.00	0.00	0.002	0					0.00

Remaining water in basin = 0.00 (Ac.Ft)



**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

```
*****HYDROGRAPH DATA*****
Number of intervals = 1437
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5.212 (CFS)
Total volume = 10.990 (Ac.Ft)
Status of hydrographs being held in storage
      Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
Peak (CFS)      0.000    0.000    0.000    0.000    0.000
Vol (Ac.Ft)     0.000    0.000    0.000    0.000    0.000
*****
```

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 10-year 24-hour storm  
 -----

Program License Serial Number 4029  
 -----

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kx10prh2410.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 294  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 34.096 (CFS)  
 Total volume = 18.149 (Ac.Ft)  
 Status of hydrographs being held in storage  
 Stream 1 Stream 2 Stream 3 Stream 4 Stream 5  
 Peak (CFS) 0.000 0.000 0.000 0.000 0.000  
 Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*  
 -----

User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 294  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

6.000      16.265      88.430      15.960      16.570

-----  
 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	8.5	17.05	25.57	34.10	Depth (Ft.)
0.083	0.42	0.00	0.001	O					0.00
0.167	1.25	0.01	0.007	OI					0.00
0.250	1.48	0.02	0.016	OI					0.01
0.333	1.80	0.03	0.028	OI					0.02
0.417	2.28	0.05	0.041	O I					0.02
0.500	2.43	0.06	0.057	O I					0.03
0.583	2.51	0.08	0.074	O I					0.04
0.667	2.54	0.10	0.090	O I					0.05
0.750	2.55	0.12	0.107	O I					0.06
0.833	2.78	0.14	0.125	O I					0.07
0.917	3.19	0.16	0.144	O I					0.09
1.000	3.31	0.19	0.165	O I					0.10
1.083	3.15	0.21	0.186	O I					0.11
1.167	2.76	0.23	0.205	O I					0.12
1.250	2.67	0.25	0.222	O I					0.13
1.333	2.63	0.27	0.239	O I					0.14
1.417	2.60	0.29	0.255	O I					0.15
1.500	2.58	0.31	0.270	O I					0.16
1.583	2.57	0.32	0.286	O I					0.17
1.667	2.57	0.34	0.301	O I					0.18
1.750	2.57	0.36	0.317	O I					0.19
1.833	2.78	0.38	0.332	O I					0.20
1.917	3.19	0.40	0.350	O I					0.21
2.000	3.31	0.42	0.370	O I					0.22
2.083	3.36	0.44	0.390	O I					0.23
2.167	3.39	0.46	0.410	O I					0.24
2.250	3.41	0.49	0.430	O I					0.25
2.333	3.42	0.51	0.450	O I					0.27
2.417	3.42	0.53	0.470	O I					0.28
2.500	3.42	0.55	0.490	O I					0.29
2.583	3.63	0.58	0.511	O I					0.30
2.667	4.05	0.60	0.533	O I					0.31
2.750	4.16	0.63	0.557	O I					0.33
2.833	4.22	0.66	0.581	O I					0.34
2.917	4.25	0.68	0.606	O I					0.36
3.000	4.26	0.71	0.630	O I					0.37
3.083	4.28	0.74	0.655	O I					0.39
3.167	4.28	0.77	0.679	O I					0.40
3.250	4.28	0.79	0.703	O I					0.42
3.333	4.28	0.82	0.727	O I					0.43
3.417	4.28	0.85	0.751	O I					0.44
3.500	4.28	0.87	0.774	O I					0.46
3.583	4.28	0.90	0.798	O I					0.47
3.667	4.28	0.93	0.821	O I					0.48
3.750	4.28	0.95	0.844	O I					0.50
3.833	4.49	0.98	0.867	O I					0.51
3.917	4.90	1.01	0.893	O I					0.53
4.000	5.02	1.04	0.920	O I					0.54
4.083	5.07	1.07	0.948	O I					0.56
4.167	5.10	1.10	0.975	O I					0.58
4.250	5.12	1.13	1.003	O I					0.59
4.333	5.34	1.16	1.031	O I					0.61
4.417	5.76	1.20	1.061	O I					0.63
4.500	5.88	1.23	1.093	O I					0.65

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.583	5.93	1.27	1.125	O	I					0.66
4.667	5.96	1.30	1.157	O	I					0.68
4.750	5.97	1.34	1.189	O	I					0.70
4.833	6.20	1.38	1.221	O	I					0.72
4.917	6.61	1.42	1.256	O	I					0.74
5.000	6.73	1.46	1.292	O	I					0.76
5.083	6.36	1.50	1.327	O	I					0.78
5.167	5.56	1.53	1.357	O	I					0.80
5.250	5.34	1.56	1.384	O	I					0.82
5.333	5.46	1.59	1.411	O	I					0.83
5.417	5.82	1.62	1.438	O	I					0.85
5.500	5.90	1.66	1.467	O	I					0.87
5.583	6.14	1.69	1.497	O	I					0.88
5.667	6.58	1.73	1.529	O	I					0.90
5.750	6.72	1.76	1.563	O	I					0.92
5.833	6.78	1.80	1.597	O	I					0.94
5.917	6.81	1.84	1.632	O	I					0.96
6.000	6.83	1.88	1.666	O	I					0.98
6.083	7.05	1.91	1.701	O	I					1.00
6.167	7.47	1.92	1.737	O	I					1.02
6.250	7.59	1.93	1.776	O	I					1.04
6.333	7.64	1.93	1.815	O	I					1.06
6.417	7.67	1.94	1.854	O	I					1.08
6.500	7.69	1.95	1.894	O	I					1.10
6.583	7.91	1.96	1.934	O	I					1.11
6.667	8.33	1.97	1.977	O	I					1.13
6.750	8.44	1.98	2.021	O	I					1.16
6.833	8.49	1.99	2.065	O	I					1.18
6.917	8.52	1.99	2.110	O	I					1.20
7.000	8.54	2.00	2.155	O	I					1.22
7.083	8.55	2.01	2.200	O	I					1.24
7.167	8.55	2.02	2.245	O	I					1.26
7.250	8.55	2.03	2.290	O	I					1.28
7.333	8.76	2.04	2.336	O	I					1.30
7.417	9.18	2.05	2.384	O	I					1.33
7.500	9.30	2.06	2.433	O	I					1.35
7.583	9.56	2.07	2.484	O	I					1.37
7.667	10.01	2.08	2.537	O	I					1.40
7.750	10.14	2.09	2.592	O	I					1.43
7.833	10.41	2.10	2.648	O	I					1.45
7.917	10.86	2.12	2.707	O	I					1.48
8.000	10.99	2.13	2.768	O	I					1.51
8.083	11.48	2.14	2.830	O	I					1.54
8.167	12.34	2.16	2.897	O	I					1.57
8.250	12.59	2.17	2.968	O	I					1.60
8.333	12.71	2.18	3.041	O	I					1.64
8.417	12.77	2.20	3.113	O	I					1.67
8.500	12.80	2.21	3.186	O	I					1.71
8.583	13.04	2.23	3.260	O	I					1.74
8.667	13.46	2.24	3.336	O	I					1.78
8.750	13.57	2.26	3.413	O	I					1.81
8.833	13.84	2.28	3.492	O	I					1.85
8.917	14.28	2.29	3.573	O	I					1.89
9.000	14.42	2.31	3.656	O	I					1.93
9.083	14.90	2.33	3.741	O	I					1.97
9.167	15.76	2.34	3.831	O	I					2.01
9.250	16.01	2.36	3.924	O	I					2.04
9.333	16.34	2.37	4.019	O	I					2.08
9.417	16.82	2.38	4.117	O	I					2.11
9.500	16.97	2.40	4.217	O	I					2.15
9.583	17.26	2.41	4.318	O	I					2.19
9.667	17.70	2.42	4.422	O	I					2.23
9.750	17.84	2.44	4.527	O	I					2.26

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.833	18.11	2.45	4.634		O			I				2.30
9.917	18.56	2.47	4.744		O			I				2.34
10.000	18.69	2.48	4.855		O			I				2.38
10.083	17.29	2.50	4.962		O			I				2.42
10.167	14.40	2.51	5.054		O			I				2.46
10.250	13.61	2.52	5.133		O			I				2.49
10.333	13.25	2.53	5.208		O			I				2.51
10.417	13.05	2.54	5.281		O			I				2.54
10.500	12.93	2.55	5.353		O			I				2.57
10.583	13.88	2.56	5.428		O			I				2.59
10.667	15.96	2.57	5.513		O			I				2.63
10.750	16.54	2.58	5.607		O			I				2.66
10.833	16.81	2.60	5.704		O			I				2.70
10.917	16.95	2.61	5.802		O			I				2.73
11.000	17.04	2.62	5.901		O			I				2.77
11.083	16.90	2.64	6.000		O			I				2.80
11.167	16.48	2.65	6.097		O			I				2.84
11.250	16.37	2.66	6.192		O			I				2.87
11.333	16.31	2.68	6.286		O			I				2.91
11.417	16.28	2.69	6.379		O			I				2.94
11.500	16.27	2.70	6.473		O			I				2.98
11.583	15.83	2.71	6.565		O			I				3.01
11.667	15.00	2.72	6.652		O			I				3.04
11.750	14.77	2.73	6.736		O			I				3.06
11.833	14.87	2.74	6.819		O			I				3.09
11.917	15.23	2.75	6.904		O			I				3.12
12.000	15.31	2.76	6.990		O			I				3.14
12.083	16.80	2.76	7.082		O			I				3.17
12.167	19.75	2.78	7.189		O			I				3.20
12.250	20.58	2.79	7.308		O			I				3.24
12.333	21.19	2.80	7.433		O			I				3.28
12.417	21.87	2.81	7.562		O			I				3.32
12.500	22.17	2.83	7.694		O			I				3.36
12.583	23.06	2.84	7.830		O			I				3.40
12.667	24.50	2.85	7.975		O			I				3.45
12.750	24.96	2.87	8.125		O			I				3.50
12.833	25.54	2.88	8.279		O			I				3.54
12.917	26.38	2.90	8.438		O			I				3.59
13.000	26.69	2.92	8.601		O			I				3.64
13.083	28.57	2.93	8.771		O			I				3.70
13.167	32.05	2.95	8.960		O			I				3.76
13.250	33.08	2.97	9.163		O			I				3.82
13.333	33.59	2.99	9.372		O			I				3.89
13.417	33.89	3.01	9.584		O			I				3.95
13.500	34.10	3.50	9.796		O			I				4.02
13.583	30.68	5.16	9.989		O			I				4.07
13.667	23.57	6.42	10.136		O			I				4.11
13.750	21.60	7.34	10.244		O			I				4.14
13.833	20.70	8.13	10.337		O			I				4.17
13.917	20.20	8.84	10.419		O			I				4.19
14.000	19.91	9.48	10.494		O			I				4.21
14.083	21.00	10.11	10.567		O			I				4.23
14.167	23.65	10.81	10.649		O			I				4.26
14.250	24.42	11.57	10.737		O			I				4.28
14.333	24.47	12.31	10.824		O			I				4.31
14.417	24.04	12.99	10.904		O			I				4.33
14.500	24.02	13.63	10.977		O			I				4.35
14.583	24.08	14.22	11.047		O			I				4.37
14.667	24.10	14.79	11.113		O			I				4.39
14.750	24.13	15.33	11.175		O			I				4.41
14.833	23.83	15.82	11.233		O			I				4.42
14.917	23.22	16.26	11.285		O			I				4.44
15.000	23.09	16.66	11.331		O			I				4.45

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.083	22.73	17.02	11.373				O	I			4.46
15.167	22.07	17.33	11.409				O	I			4.47
15.250	21.91	17.59	11.440				O	I			4.48
15.333	21.52	17.83	11.468				O	I			4.49
15.417	20.86	18.02	11.490				O	I			4.49
15.500	20.71	18.18	11.509					O I			4.50
15.583	19.58	18.29	11.522					O I			4.50
15.667	17.44	18.31	11.523					I O			4.50
15.750	16.84	18.24	11.515					I O			4.50
15.833	16.56	18.15	11.505					I O			4.50
15.917	16.41	18.05	11.494					I O			4.50
16.000	16.32	17.96	11.483					I O			4.49
16.083	13.11	17.77	11.461					I O			4.49
16.167	6.85	17.33	11.409		I			O			4.47
16.250	5.12	16.68	11.333		I			O			4.45
16.333	4.33	15.99	11.253		I			O			4.43
16.417	3.89	15.31	11.174		I			O			4.41
16.500	3.63	14.65	11.096		I			O			4.38
16.583	3.21	14.00	11.021		I			O			4.36
16.667	2.80	13.37	10.948		I			O			4.34
16.750	2.68	12.76	10.877		I			O			4.32
16.833	2.63	12.18	10.809		I			O			4.30
16.917	2.60	11.63	10.745		I			O			4.28
17.000	2.58	11.12	10.684		I			O			4.27
17.083	2.98	10.64	10.629		I			O			4.25
17.167	3.82	10.22	10.580		I			O			4.24
17.250	4.05	9.86	10.538		I			O			4.23
17.333	4.16	9.53	10.500		I			O			4.21
17.417	4.22	9.23	10.464		I			O			4.20
17.500	4.25	8.94	10.430		I			O			4.20
17.583	4.28	8.67	10.399		I			O			4.19
17.667	4.28	8.42	10.370		I			O			4.18
17.750	4.28	8.18	10.342		I			O			4.17
17.833	4.07	7.95	10.315		I			O			4.16
17.917	3.65	7.72	10.288		I			O			4.15
18.000	3.53	7.48	10.260		I			O			4.15
18.083	3.48	7.25	10.234		I			O			4.14
18.167	3.45	7.04	10.208		I			O			4.13
18.250	3.44	6.83	10.184		I			O			4.13
18.333	3.42	6.63	10.162		I			O			4.12
18.417	3.42	6.45	10.140		I			O			4.11
18.500	3.42	6.28	10.120		I			O			4.11
18.583	3.21	6.11	10.100		I			O			4.10
18.667	2.80	5.93	10.079		I			O			4.10
18.750	2.68	5.75	10.058		I			O			4.09
18.833	2.42	5.56	10.037		I			O			4.08
18.917	1.97	5.37	10.014		I			O			4.08
19.000	1.84	5.17	9.991		I			O			4.07
19.083	1.98	4.98	9.969		I			O			4.06
19.167	2.37	4.82	9.950		I			O			4.06
19.250	2.47	4.69	9.934		I			O			4.05
19.333	2.72	4.57	9.920		I			O			4.05
19.417	3.16	4.47	9.909		I			O			4.05
19.500	3.29	4.40	9.901		I			O			4.05
19.583	3.15	4.33	9.893		I			O			4.04
19.667	2.76	4.25	9.884		I			O			4.04
19.750	2.67	4.17	9.874		I			O			4.04
19.833	2.42	4.07	9.863		I			O			4.03
19.917	1.97	3.97	9.850		I			O			4.03
20.000	1.84	3.85	9.836		I			O			4.03
20.083	1.98	3.74	9.823		I			O			4.02
20.167	2.37	3.65	9.813		I			O			4.02
20.250	2.47	3.58	9.805		I			O			4.02

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.333	2.51	3.51	9.797	IO					4.02
20.417	2.54	3.46	9.791	IO					4.01
20.500	2.55	3.40	9.785	IO					4.01
20.583	2.57	3.36	9.779	IO					4.01
20.667	2.57	3.31	9.774	IO					4.01
20.750	2.57	3.27	9.769	IO					4.01
20.833	2.36	3.22	9.763	IO					4.01
20.917	1.94	3.16	9.756	IO					4.00
21.000	1.82	3.09	9.748	IO					4.00
21.083	1.98	3.03	9.740	IO					4.00
21.167	2.37	3.03	9.734	O					4.00
21.250	2.47	3.03	9.730	O					4.00
21.333	2.30	3.03	9.725	O					4.00
21.417	1.91	3.03	9.719	IO					3.99
21.500	1.81	3.03	9.711	IO					3.99
21.583	1.98	3.03	9.703	IO					3.99
21.667	2.37	3.03	9.697	O					3.99
21.750	2.47	3.03	9.693	O					3.98
21.833	2.30	3.02	9.688	O					3.98
21.917	1.91	3.02	9.682	IO					3.98
22.000	1.81	3.02	9.674	IO					3.98
22.083	1.98	3.02	9.666	IO					3.98
22.167	2.37	3.02	9.660	O					3.97
22.250	2.47	3.02	9.656	O					3.97
22.333	2.30	3.02	9.652	O					3.97
22.417	1.91	3.02	9.646	IO					3.97
22.500	1.81	3.02	9.638	IO					3.97
22.583	1.77	3.02	9.629	IO					3.97
22.667	1.74	3.02	9.620	IO					3.96
22.750	1.72	3.02	9.612	IO					3.96
22.833	1.71	3.02	9.603	IO					3.96
22.917	1.71	3.02	9.594	IO					3.95
23.000	1.71	3.01	9.585	IO					3.95
23.083	1.71	3.01	9.576	IO					3.95
23.167	1.71	3.01	9.567	IO					3.95
23.250	1.71	3.01	9.558	IO					3.94
23.333	1.71	3.01	9.549	IO					3.94
23.417	1.71	3.01	9.540	IO					3.94
23.500	1.71	3.01	9.531	IO					3.93
23.583	1.71	3.01	9.522	IO					3.93
23.667	1.71	3.01	9.513	IO					3.93
23.750	1.71	3.01	9.504	IO					3.93
23.833	1.71	3.01	9.495	IO					3.92
23.917	1.71	3.00	9.486	IO					3.92
24.000	1.71	3.00	9.477	IO					3.92
24.083	1.29	3.00	9.467	IO					3.91
24.167	0.46	3.00	9.452	IO					3.91
24.250	0.23	3.00	9.434	IO					3.90
24.333	0.12	3.00	9.415	IO					3.90
24.417	0.06	3.00	9.395	IO					3.89
24.500	0.03	2.99	9.374	IO					3.89
24.583	0.00	2.99	9.354	IO					3.88
24.667	0.00	2.99	9.333	IO					3.87
24.750	0.00	2.99	9.313	IO					3.87
24.833	0.00	2.99	9.292	IO					3.86
24.917	0.00	2.98	9.271	IO					3.85
25.000	0.00	2.98	9.251	IO					3.85
25.083	0.00	2.98	9.230	IO					3.84
25.167	0.00	2.98	9.210	IO					3.83
25.250	0.00	2.97	9.189	IO					3.83
25.333	0.00	2.97	9.169	IO					3.82
25.417	0.00	2.97	9.148	IO					3.82
25.500	0.00	2.97	9.128	IO					3.81

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.583	0.00	2.97	9.108	I O					3.80
25.667	0.00	2.96	9.087	I O					3.80
25.750	0.00	2.96	9.067	I O					3.79
25.833	0.00	2.96	9.046	I O					3.78
25.917	0.00	2.96	9.026	I O					3.78
26.000	0.00	2.96	9.006	I O					3.77
26.083	0.00	2.95	8.985	I O					3.76
26.167	0.00	2.95	8.965	I O					3.76
26.250	0.00	2.95	8.945	I O					3.75
26.333	0.00	2.95	8.924	I O					3.75
26.417	0.00	2.95	8.904	I O					3.74
26.500	0.00	2.94	8.884	I O					3.73
26.583	0.00	2.94	8.863	I O					3.73
26.667	0.00	2.94	8.843	I O					3.72
26.750	0.00	2.94	8.823	I O					3.71
26.833	0.00	2.94	8.803	I O					3.71
26.917	0.00	2.93	8.782	I O					3.70
27.000	0.00	2.93	8.762	I O					3.69
27.083	0.00	2.93	8.742	I O					3.69
27.167	0.00	2.93	8.722	I O					3.68
27.250	0.00	2.93	8.702	I O					3.68
27.333	0.00	2.92	8.682	I O					3.67
27.417	0.00	2.92	8.661	I O					3.66
27.500	0.00	2.92	8.641	I O					3.66
27.583	0.00	2.92	8.621	I O					3.65
27.667	0.00	2.92	8.601	I O					3.64
27.750	0.00	2.91	8.581	I O					3.64
27.833	0.00	2.91	8.561	I O					3.63
27.917	0.00	2.91	8.541	I O					3.63
28.000	0.00	2.91	8.521	I O					3.62
28.083	0.00	2.91	8.501	I O					3.61
28.167	0.00	2.90	8.481	I O					3.61
28.250	0.00	2.90	8.461	I O					3.60
28.333	0.00	2.90	8.441	I O					3.59
28.417	0.00	2.90	8.421	I O					3.59
28.500	0.00	2.90	8.401	I O					3.58
28.583	0.00	2.89	8.381	I O					3.58
28.667	0.00	2.89	8.361	I O					3.57
28.750	0.00	2.89	8.341	I O					3.56
28.833	0.00	2.89	8.321	I O					3.56
28.917	0.00	2.89	8.301	I O					3.55
29.000	0.00	2.88	8.282	I O					3.54
29.083	0.00	2.88	8.262	I O					3.54
29.167	0.00	2.88	8.242	I O					3.53
29.250	0.00	2.88	8.222	I O					3.53
29.333	0.00	2.88	8.202	I O					3.52
29.417	0.00	2.87	8.182	I O					3.51
29.500	0.00	2.87	8.163	I O					3.51
29.583	0.00	2.87	8.143	I O					3.50
29.667	0.00	2.87	8.123	I O					3.50
29.750	0.00	2.87	8.103	I O					3.49
29.833	0.00	2.86	8.084	I O					3.48
29.917	0.00	2.86	8.064	I O					3.48
30.000	0.00	2.86	8.044	I O					3.47
30.083	0.00	2.86	8.024	I O					3.46
30.167	0.00	2.86	8.005	I O					3.46
30.250	0.00	2.85	7.985	I O					3.45
30.333	0.00	2.85	7.965	I O					3.45
30.417	0.00	2.85	7.946	I O					3.44
30.500	0.00	2.85	7.926	I O					3.43
30.583	0.00	2.85	7.907	I O					3.43
30.667	0.00	2.85	7.887	I O					3.42
30.750	0.00	2.84	7.867	I O					3.42



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

30.833	0.00	2.84	7.848	I O					3.41
30.917	0.00	2.84	7.828	I O					3.40
31.000	0.00	2.84	7.809	I O					3.40
31.083	0.00	2.84	7.789	I O					3.39
31.167	0.00	2.83	7.770	I O					3.39
31.250	0.00	2.83	7.750	I O					3.38
31.333	0.00	2.83	7.731	I O					3.37
31.417	0.00	2.83	7.711	I O					3.37
31.500	0.00	2.83	7.692	I O					3.36
31.583	0.00	2.82	7.672	I O					3.35
31.667	0.00	2.82	7.653	I O					3.35
31.750	0.00	2.82	7.633	I O					3.34
31.833	0.00	2.82	7.614	I O					3.34
31.917	0.00	2.82	7.595	I O					3.33
32.000	0.00	2.81	7.575	I O					3.32
32.083	0.00	2.81	7.556	I O					3.32
32.167	0.00	2.81	7.536	I O					3.31
32.250	0.00	2.81	7.517	I O					3.31
32.333	0.00	2.81	7.498	I O					3.30
32.417	0.00	2.80	7.478	I O					3.29
32.500	0.00	2.80	7.459	I O					3.29
32.583	0.00	2.80	7.440	I O					3.28
32.667	0.00	2.80	7.421	I O					3.28
32.750	0.00	2.80	7.401	I O					3.27
32.833	0.00	2.79	7.382	I O					3.26
32.917	0.00	2.79	7.363	I O					3.26
33.000	0.00	2.79	7.344	I O					3.25
33.083	0.00	2.79	7.324	I O					3.25
33.167	0.00	2.79	7.305	I O					3.24
33.250	0.00	2.79	7.286	I O					3.23
33.333	0.00	2.78	7.267	I O					3.23
33.417	0.00	2.78	7.248	I O					3.22
33.500	0.00	2.78	7.228	I O					3.22
33.583	0.00	2.78	7.209	I O					3.21
33.667	0.00	2.78	7.190	I O					3.20
33.750	0.00	2.77	7.171	I O					3.20
33.833	0.00	2.77	7.152	I O					3.19
33.917	0.00	2.77	7.133	I O					3.19
34.000	0.00	2.77	7.114	I O					3.18
34.083	0.00	2.77	7.095	I O					3.17
34.167	0.00	2.76	7.076	I O					3.17
34.250	0.00	2.76	7.057	I O					3.16
34.333	0.00	2.76	7.038	I O					3.16
34.417	0.00	2.76	7.019	I O					3.15
34.500	0.00	2.76	7.000	I O					3.15
34.583	0.00	2.75	6.981	I O					3.14
34.667	0.00	2.75	6.962	I O					3.13
34.750	0.00	2.75	6.943	I O					3.13
34.833	0.00	2.75	6.924	I O					3.12
34.917	0.00	2.75	6.905	I O					3.12
35.000	0.00	2.75	6.886	I O					3.11
35.083	0.00	2.74	6.867	I O					3.10
35.167	0.00	2.74	6.848	I O					3.10
35.250	0.00	2.74	6.829	I O					3.09
35.333	0.00	2.74	6.811	I O					3.09
35.417	0.00	2.74	6.792	I O					3.08
35.500	0.00	2.73	6.773	I O					3.07
35.583	0.00	2.73	6.754	I O					3.07
35.667	0.00	2.73	6.735	I O					3.06
35.750	0.00	2.73	6.716	I O					3.06
35.833	0.00	2.73	6.698	I O					3.05
35.917	0.00	2.72	6.679	I O					3.05
36.000	0.00	2.72	6.660	I O					3.04

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.083	0.00	2.72	6.641	I O					3.03
36.167	0.00	2.72	6.623	I O					3.03
36.250	0.00	2.72	6.604	I O					3.02
36.333	0.00	2.72	6.585	I O					3.02
36.417	0.00	2.71	6.567	I O					3.01
36.500	0.00	2.71	6.548	I O					3.00
36.583	0.00	2.71	6.529	I O					3.00
36.667	0.00	2.71	6.511	I O					2.99
36.750	0.00	2.70	6.492	I O					2.98
36.833	0.00	2.70	6.473	I O					2.98
36.917	0.00	2.70	6.455	I O					2.97
37.000	0.00	2.70	6.436	I O					2.96
37.083	0.00	2.69	6.418	I O					2.96
37.167	0.00	2.69	6.399	I O					2.95
37.250	0.00	2.69	6.380	I O					2.94
37.333	0.00	2.69	6.362	I O					2.94
37.417	0.00	2.68	6.343	I O					2.93
37.500	0.00	2.68	6.325	I O					2.92
37.583	0.00	2.68	6.307	I O					2.92
37.667	0.00	2.68	6.288	I O					2.91
37.750	0.00	2.67	6.270	I O					2.90
37.833	0.00	2.67	6.251	I O					2.90
37.917	0.00	2.67	6.233	I O					2.89
38.000	0.00	2.67	6.214	I O					2.88
38.083	0.00	2.66	6.196	I O					2.88
38.167	0.00	2.66	6.178	I O					2.87
38.250	0.00	2.66	6.159	I O					2.86
38.333	0.00	2.66	6.141	I O					2.86
38.417	0.00	2.65	6.123	I O					2.85
38.500	0.00	2.65	6.105	I O					2.84
38.583	0.00	2.65	6.086	I O					2.84
38.667	0.00	2.65	6.068	I O					2.83
38.750	0.00	2.64	6.050	I O					2.82
38.833	0.00	2.64	6.032	I O					2.82
38.917	0.00	2.64	6.014	I O					2.81
39.000	0.00	2.64	5.995	I O					2.80
39.083	0.00	2.63	5.977	I O					2.80
39.167	0.00	2.63	5.959	I O					2.79
39.250	0.00	2.63	5.941	I O					2.78
39.333	0.00	2.63	5.923	I O					2.78
39.417	0.00	2.62	5.905	I O					2.77
39.500	0.00	2.62	5.887	I O					2.76
39.583	0.00	2.62	5.869	I O					2.76
39.667	0.00	2.62	5.851	I O					2.75
39.750	0.00	2.61	5.833	I O					2.74
39.833	0.00	2.61	5.815	I O					2.74
39.917	0.00	2.61	5.797	I O					2.73
40.000	0.00	2.61	5.779	I O					2.72
40.083	0.00	2.61	5.761	I O					2.72
40.167	0.00	2.60	5.743	I O					2.71
40.250	0.00	2.60	5.725	I O					2.70
40.333	0.00	2.60	5.707	I O					2.70
40.417	0.00	2.60	5.689	I O					2.69
40.500	0.00	2.59	5.671	I O					2.68
40.583	0.00	2.59	5.653	I O					2.68
40.667	0.00	2.59	5.636	I O					2.67
40.750	0.00	2.59	5.618	I O					2.66
40.833	0.00	2.58	5.600	I O					2.66
40.917	0.00	2.58	5.582	I O					2.65
41.000	0.00	2.58	5.564	I O					2.64
41.083	0.00	2.58	5.547	I O					2.64
41.167	0.00	2.57	5.529	I O					2.63
41.250	0.00	2.57	5.511	I O					2.63

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.333	0.00	2.57	5.493	I O					2.62
41.417	0.00	2.57	5.476	I O					2.61
41.500	0.00	2.56	5.458	I O					2.61
41.583	0.00	2.56	5.440	I O					2.60
41.667	0.00	2.56	5.423	I O					2.59
41.750	0.00	2.56	5.405	I O					2.59
41.833	0.00	2.55	5.388	I O					2.58
41.917	0.00	2.55	5.370	I O					2.57
42.000	0.00	2.55	5.352	I O					2.57
42.083	0.00	2.55	5.335	I O					2.56
42.167	0.00	2.54	5.317	I O					2.55
42.250	0.00	2.54	5.300	I O					2.55
42.333	0.00	2.54	5.282	I O					2.54
42.417	0.00	2.54	5.265	I O					2.53
42.500	0.00	2.54	5.247	I O					2.53
42.583	0.00	2.53	5.230	I O					2.52
42.667	0.00	2.53	5.212	I O					2.52
42.750	0.00	2.53	5.195	I O					2.51
42.833	0.00	2.53	5.178	I O					2.50
42.917	0.00	2.52	5.160	I O					2.50
43.000	0.00	2.52	5.143	I O					2.49
43.083	0.00	2.52	5.126	I O					2.48
43.167	0.00	2.52	5.108	I O					2.48
43.250	0.00	2.51	5.091	I O					2.47
43.333	0.00	2.51	5.074	I O					2.46
43.417	0.00	2.51	5.056	I O					2.46
43.500	0.00	2.51	5.039	I O					2.45
43.583	0.00	2.50	5.022	I O					2.45
43.667	0.00	2.50	5.004	I O					2.44
43.750	0.00	2.50	4.987	I O					2.43
43.833	0.00	2.50	4.970	I O					2.43
43.917	0.00	2.50	4.953	I O					2.42
44.000	0.00	2.49	4.936	I O					2.41
44.083	0.00	2.49	4.919	I O					2.41
44.167	0.00	2.49	4.901	I O					2.40
44.250	0.00	2.49	4.884	I O					2.40
44.333	0.00	2.48	4.867	I O					2.39
44.417	0.00	2.48	4.850	I O					2.38
44.500	0.00	2.48	4.833	I O					2.38
44.583	0.00	2.48	4.816	I O					2.37
44.667	0.00	2.47	4.799	I O					2.36
44.750	0.00	2.47	4.782	I O					2.36
44.833	0.00	2.47	4.765	I O					2.35
44.917	0.00	2.47	4.748	I O					2.35
45.000	0.00	2.47	4.731	I O					2.34
45.083	0.00	2.46	4.714	I O					2.33
45.167	0.00	2.46	4.697	I O					2.33
45.250	0.00	2.46	4.680	I O					2.32
45.333	0.00	2.46	4.663	I O					2.31
45.417	0.00	2.45	4.646	I O					2.31
45.500	0.00	2.45	4.629	I O					2.30
45.583	0.00	2.45	4.612	I O					2.30
45.667	0.00	2.45	4.595	I O					2.29
45.750	0.00	2.44	4.579	I O					2.28
45.833	0.00	2.44	4.562	I O					2.28
45.917	0.00	2.44	4.545	I O					2.27
46.000	0.00	2.44	4.528	I O					2.26
46.083	0.00	2.44	4.511	I O					2.26
46.167	0.00	2.43	4.495	I O					2.25
46.250	0.00	2.43	4.478	I O					2.25
46.333	0.00	2.43	4.461	I O					2.24
46.417	0.00	2.43	4.444	I O					2.23
46.500	0.00	2.42	4.428	I O					2.23

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.583	0.00	2.42	4.411	I O					2.22
46.667	0.00	2.42	4.394	I O					2.22
46.750	0.00	2.42	4.378	I O					2.21
46.833	0.00	2.42	4.361	I O					2.20
46.917	0.00	2.41	4.344	I O					2.20
47.000	0.00	2.41	4.328	I O					2.19
47.083	0.00	2.41	4.311	I O					2.19
47.167	0.00	2.41	4.295	I O					2.18
47.250	0.00	2.40	4.278	I O					2.17
47.333	0.00	2.40	4.262	I O					2.17
47.417	0.00	2.40	4.245	I O					2.16
47.500	0.00	2.40	4.228	I O					2.15
47.583	0.00	2.40	4.212	I O					2.15
47.667	0.00	2.39	4.195	I O					2.14
47.750	0.00	2.39	4.179	I O					2.14
47.833	0.00	2.39	4.163	I O					2.13
47.917	0.00	2.39	4.146	I O					2.12
48.000	0.00	2.38	4.130	I O					2.12
48.083	0.00	2.38	4.113	I O					2.11
48.167	0.00	2.38	4.097	I O					2.11
48.250	0.00	2.38	4.080	I O					2.10
48.333	0.00	2.38	4.064	I O					2.09
48.417	0.00	2.37	4.048	I O					2.09
48.500	0.00	2.37	4.031	I O					2.08
48.583	0.00	2.37	4.015	I O					2.08
48.667	0.00	2.37	3.999	I O					2.07
48.750	0.00	2.36	3.983	I O					2.06
48.833	0.00	2.36	3.966	I O					2.06
48.917	0.00	2.36	3.950	I O					2.05
49.000	0.00	2.36	3.934	I O					2.05
49.083	0.00	2.36	3.918	I O					2.04
49.167	0.00	2.35	3.901	I O					2.03
49.250	0.00	2.35	3.885	I O					2.03
49.333	0.00	2.35	3.869	I O					2.02
49.417	0.00	2.35	3.853	I O					2.02
49.500	0.00	2.34	3.837	I O					2.01
49.583	0.00	2.34	3.820	I O					2.01
49.667	0.00	2.34	3.804	I O					2.00
49.750	0.00	2.34	3.788	I O					1.99
49.833	0.00	2.33	3.772	I O					1.98
49.917	0.00	2.33	3.756	I O					1.98
50.000	0.00	2.33	3.740	I O					1.97
50.083	0.00	2.32	3.724	I O					1.96
50.167	0.00	2.32	3.708	I O					1.95
50.250	0.00	2.32	3.692	I O					1.95
50.333	0.00	2.31	3.676	I O					1.94
50.417	0.00	2.31	3.660	I O					1.93
50.500	0.00	2.31	3.644	I O					1.92
50.583	0.00	2.30	3.628	I O					1.92
50.667	0.00	2.30	3.613	I O					1.91
50.750	0.00	2.30	3.597	I O					1.90
50.833	0.00	2.29	3.581	I O					1.89
50.917	0.00	2.29	3.565	I O					1.89
51.000	0.00	2.29	3.549	I O					1.88
51.083	0.00	2.28	3.534	I O					1.87
51.167	0.00	2.28	3.518	I O					1.86
51.250	0.00	2.28	3.502	I O					1.86
51.333	0.00	2.27	3.487	I O					1.85
51.417	0.00	2.27	3.471	I O					1.84
51.500	0.00	2.27	3.455	I O					1.83
51.583	0.00	2.27	3.440	I O					1.83
51.667	0.00	2.26	3.424	I O					1.82
51.750	0.00	2.26	3.408	I O					1.81

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.833	0.00	2.26	3.393	I O					1.80
51.917	0.00	2.25	3.377	I O					1.80
52.000	0.00	2.25	3.362	I O					1.79
52.083	0.00	2.25	3.346	I O					1.78
52.167	0.00	2.24	3.331	I O					1.78
52.250	0.00	2.24	3.316	I O					1.77
52.333	0.00	2.24	3.300	I O					1.76
52.417	0.00	2.23	3.285	I O					1.75
52.500	0.00	2.23	3.269	I O					1.75
52.583	0.00	2.23	3.254	I O					1.74
52.667	0.00	2.22	3.239	I O					1.73
52.750	0.00	2.22	3.223	I O					1.72
52.833	0.00	2.22	3.208	I O					1.72
52.917	0.00	2.22	3.193	I O					1.71
53.000	0.00	2.21	3.178	I O					1.70
53.083	0.00	2.21	3.162	I O					1.70
53.167	0.00	2.21	3.147	I O					1.69
53.250	0.00	2.20	3.132	I O					1.68
53.333	0.00	2.20	3.117	I O					1.67
53.417	0.00	2.20	3.102	I O					1.67
53.500	0.00	2.19	3.087	I O					1.66
53.583	0.00	2.19	3.071	I O					1.65
53.667	0.00	2.19	3.056	I O					1.65
53.750	0.00	2.18	3.041	I O					1.64
53.833	0.00	2.18	3.026	I O					1.63
53.917	0.00	2.18	3.011	I O					1.62
54.000	0.00	2.18	2.996	I O					1.62
54.083	0.00	2.17	2.981	I O					1.61
54.167	0.00	2.17	2.966	I O					1.60
54.250	0.00	2.17	2.951	I O					1.60
54.333	0.00	2.16	2.937	I O					1.59
54.417	0.00	2.16	2.922	I O					1.58
54.500	0.00	2.16	2.907	I O					1.57
54.583	0.00	2.15	2.892	I O					1.57
54.667	0.00	2.15	2.877	I O					1.56
54.750	0.00	2.15	2.862	I O					1.55
54.833	0.00	2.14	2.848	I O					1.55
54.917	0.00	2.14	2.833	I O					1.54
55.000	0.00	2.14	2.818	I O					1.53
55.083	0.00	2.14	2.803	I O					1.53
55.167	0.00	2.13	2.789	I O					1.52
55.250	0.00	2.13	2.774	IO					1.51
55.333	0.00	2.13	2.759	IO					1.50
55.417	0.00	2.12	2.745	IO					1.50
55.500	0.00	2.12	2.730	IO					1.49
55.583	0.00	2.12	2.715	IO					1.48
55.667	0.00	2.12	2.701	IO					1.48
55.750	0.00	2.11	2.686	IO					1.47
55.833	0.00	2.11	2.672	IO					1.46
55.917	0.00	2.11	2.657	IO					1.46
56.000	0.00	2.10	2.643	IO					1.45
56.083	0.00	2.10	2.628	IO					1.44
56.167	0.00	2.10	2.614	IO					1.44
56.250	0.00	2.09	2.599	IO					1.43
56.333	0.00	2.09	2.585	IO					1.42
56.417	0.00	2.09	2.571	IO					1.42
56.500	0.00	2.09	2.556	IO					1.41
56.583	0.00	2.08	2.542	IO					1.40
56.667	0.00	2.08	2.527	IO					1.39
56.750	0.00	2.08	2.513	IO					1.39
56.833	0.00	2.07	2.499	IO					1.38
56.917	0.00	2.07	2.485	IO					1.37
57.000	0.00	2.07	2.470	IO					1.37

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

57.083	0.00	2.07	2.456	IO					1.36
57.167	0.00	2.06	2.442	IO					1.35
57.250	0.00	2.06	2.428	IO					1.35
57.333	0.00	2.06	2.414	IO					1.34
57.417	0.00	2.05	2.399	IO					1.33
57.500	0.00	2.05	2.385	IO					1.33
57.583	0.00	2.05	2.371	IO					1.32
57.667	0.00	2.05	2.357	IO					1.31
57.750	0.00	2.04	2.343	IO					1.31
57.833	0.00	2.04	2.329	IO					1.30
57.917	0.00	2.04	2.315	IO					1.29
58.000	0.00	2.03	2.301	IO					1.29
58.083	0.00	2.03	2.287	IO					1.28
58.167	0.00	2.03	2.273	IO					1.27
58.250	0.00	2.03	2.259	IO					1.27
58.333	0.00	2.02	2.245	IO					1.26
58.417	0.00	2.02	2.231	IO					1.25
58.500	0.00	2.02	2.217	IO					1.25
58.583	0.00	2.01	2.203	IO					1.24
58.667	0.00	2.01	2.189	IO					1.23
58.750	0.00	2.01	2.176	IO					1.23
58.833	0.00	2.01	2.162	IO					1.22
58.917	0.00	2.00	2.148	IO					1.22
59.000	0.00	2.00	2.134	IO					1.21
59.083	0.00	2.00	2.120	IO					1.20
59.167	0.00	1.99	2.107	IO					1.20
59.250	0.00	1.99	2.093	IO					1.19
59.333	0.00	1.99	2.079	IO					1.18
59.417	0.00	1.99	2.066	IO					1.18
59.500	0.00	1.98	2.052	IO					1.17
59.583	0.00	1.98	2.038	IO					1.16
59.667	0.00	1.98	2.025	IO					1.16
59.750	0.00	1.97	2.011	IO					1.15
59.833	0.00	1.97	1.997	IO					1.14
59.917	0.00	1.97	1.984	IO					1.14
60.000	0.00	1.97	1.970	IO					1.13
60.083	0.00	1.96	1.957	IO					1.12
60.167	0.00	1.96	1.943	IO					1.12
60.250	0.00	1.96	1.930	IO					1.11
60.333	0.00	1.96	1.916	IO					1.11
60.417	0.00	1.95	1.903	IO					1.10
60.500	0.00	1.95	1.889	IO					1.09
60.583	0.00	1.95	1.876	IO					1.09
60.667	0.00	1.94	1.863	IO					1.08
60.750	0.00	1.94	1.849	IO					1.07
60.833	0.00	1.94	1.836	IO					1.07
60.917	0.00	1.94	1.822	IO					1.06
61.000	0.00	1.93	1.809	IO					1.05
61.083	0.00	1.93	1.796	IO					1.05
61.167	0.00	1.93	1.783	IO					1.04
61.250	0.00	1.93	1.769	IO					1.04
61.333	0.00	1.92	1.756	IO					1.03
61.417	0.00	1.92	1.743	IO					1.02
61.500	0.00	1.92	1.730	IO					1.02
61.583	0.00	1.91	1.716	IO					1.01
61.667	0.00	1.91	1.703	IO					1.00
61.750	0.00	1.91	1.690	IO					1.00
61.833	0.00	1.89	1.677	IO					0.99
61.917	0.00	1.88	1.664	IO					0.98
62.000	0.00	1.86	1.651	IO					0.98
62.083	0.00	1.85	1.638	IO					0.97
62.167	0.00	1.83	1.626	IO					0.96
62.250	0.00	1.82	1.613	IO					0.95

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.333	0.00	1.81	1.601	IO					0.95
62.417	0.00	1.79	1.588	IO					0.94
62.500	0.00	1.78	1.576	IO					0.93
62.583	0.00	1.76	1.564	IO					0.92
62.667	0.00	1.75	1.552	IO					0.92
62.750	0.00	1.74	1.540	IO					0.91
62.833	0.00	1.72	1.528	IO					0.90
62.917	0.00	1.71	1.516	IO					0.90
63.000	0.00	1.70	1.504	IO					0.89
63.083	0.00	1.68	1.492	IO					0.88
63.167	0.00	1.67	1.481	IO					0.87
63.250	0.00	1.66	1.469	IO					0.87
63.333	0.00	1.64	1.458	IO					0.86
63.417	0.00	1.63	1.447	IO					0.85
63.500	0.00	1.62	1.436	IO					0.85
63.583	0.00	1.61	1.424	IO					0.84
63.667	0.00	1.59	1.413	IO					0.83
63.750	0.00	1.58	1.403	IO					0.83
63.833	0.00	1.57	1.392	IO					0.82
63.917	0.00	1.56	1.381	IO					0.82
64.000	0.00	1.55	1.370	IO					0.81
64.083	0.00	1.53	1.360	IO					0.80
64.167	0.00	1.52	1.349	IO					0.80
64.250	0.00	1.51	1.339	IO					0.79
64.333	0.00	1.50	1.328	IO					0.78
64.417	0.00	1.49	1.318	IO					0.78
64.500	0.00	1.48	1.308	IO					0.77
64.583	0.00	1.46	1.298	IO					0.77
64.667	0.00	1.45	1.288	IO					0.76
64.750	0.00	1.44	1.278	IO					0.75
64.833	0.00	1.43	1.268	IO					0.75
64.917	0.00	1.42	1.258	IO					0.74
65.000	0.00	1.41	1.248	IO					0.74
65.083	0.00	1.40	1.239	IO					0.73
65.167	0.00	1.39	1.229	IO					0.73
65.250	0.00	1.38	1.219	IO					0.72
65.333	0.00	1.37	1.210	IO					0.71
65.417	0.00	1.35	1.201	IO					0.71
65.500	0.00	1.34	1.191	IO					0.70
65.583	0.00	1.33	1.182	IO					0.70
65.667	0.00	1.32	1.173	IO					0.69
65.750	0.00	1.31	1.164	IO					0.69
65.833	0.00	1.30	1.155	IO					0.68
65.917	0.00	1.29	1.146	IO					0.68
66.000	0.00	1.28	1.137	IO					0.67
66.083	0.00	1.27	1.128	IO					0.67
66.167	0.00	1.26	1.120	IO					0.66
66.250	0.00	1.25	1.111	IO					0.66
66.333	0.00	1.24	1.102	IO					0.65
66.417	0.00	1.23	1.094	IO					0.65
66.500	0.00	1.22	1.085	IO					0.64
66.583	0.00	1.21	1.077	IO					0.64
66.667	0.00	1.21	1.069	IO					0.63
66.750	0.00	1.20	1.060	IO					0.63
66.833	0.00	1.19	1.052	IO					0.62
66.917	0.00	1.18	1.044	IO					0.62
67.000	0.00	1.17	1.036	IO					0.61
67.083	0.00	1.16	1.028	IO					0.61
67.167	0.00	1.15	1.020	IO					0.60
67.250	0.00	1.14	1.012	IO					0.60
67.333	0.00	1.13	1.004	IO					0.59
67.417	0.00	1.12	0.996	IO					0.59
67.500	0.00	1.12	0.989	IO					0.58

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.583	0.00	1.11	0.981	IO					0.58
67.667	0.00	1.10	0.973	IO					0.57
67.750	0.00	1.09	0.966	IO					0.57
67.833	0.00	1.08	0.958	IO					0.57
67.917	0.00	1.07	0.951	IO					0.56
68.000	0.00	1.06	0.944	O					0.56
68.083	0.00	1.06	0.936	O					0.55
68.167	0.00	1.05	0.929	O					0.55
68.250	0.00	1.04	0.922	O					0.54
68.333	0.00	1.03	0.915	O					0.54
68.417	0.00	1.02	0.908	O					0.54
68.500	0.00	1.02	0.901	O					0.53
68.583	0.00	1.01	0.894	O					0.53
68.667	0.00	1.00	0.887	O					0.52
68.750	0.00	0.99	0.880	O					0.52
68.833	0.00	0.99	0.873	O					0.52
68.917	0.00	0.98	0.866	O					0.51
69.000	0.00	0.97	0.860	O					0.51
69.083	0.00	0.96	0.853	O					0.50
69.167	0.00	0.95	0.846	O					0.50
69.250	0.00	0.95	0.840	O					0.50
69.333	0.00	0.94	0.833	O					0.49
69.417	0.00	0.93	0.827	O					0.49
69.500	0.00	0.93	0.820	O					0.48
69.583	0.00	0.92	0.814	O					0.48
69.667	0.00	0.91	0.808	O					0.48
69.750	0.00	0.90	0.802	O					0.47
69.833	0.00	0.90	0.795	O					0.47
69.917	0.00	0.89	0.789	O					0.47
70.000	0.00	0.88	0.783	O					0.46
70.083	0.00	0.88	0.777	O					0.46
70.167	0.00	0.87	0.771	O					0.46
70.250	0.00	0.86	0.765	O					0.45
70.333	0.00	0.86	0.759	O					0.45
70.417	0.00	0.85	0.753	O					0.44
70.500	0.00	0.84	0.747	O					0.44
70.583	0.00	0.84	0.742	O					0.44
70.667	0.00	0.83	0.736	O					0.43
70.750	0.00	0.82	0.730	O					0.43
70.833	0.00	0.82	0.725	O					0.43
70.917	0.00	0.81	0.719	O					0.42
71.000	0.00	0.80	0.713	O					0.42
71.083	0.00	0.80	0.708	O					0.42
71.167	0.00	0.79	0.702	O					0.41
71.250	0.00	0.79	0.697	O					0.41
71.333	0.00	0.78	0.692	O					0.41
71.417	0.00	0.77	0.686	O					0.41
71.500	0.00	0.77	0.681	O					0.40
71.583	0.00	0.76	0.676	O					0.40
71.667	0.00	0.76	0.670	O					0.40
71.750	0.00	0.75	0.665	O					0.39
71.833	0.00	0.74	0.660	O					0.39
71.917	0.00	0.74	0.655	O					0.39
72.000	0.00	0.73	0.650	O					0.38
72.083	0.00	0.73	0.645	O					0.38
72.167	0.00	0.72	0.640	O					0.38
72.250	0.00	0.72	0.635	O					0.38
72.333	0.00	0.71	0.630	O					0.37
72.417	0.00	0.71	0.625	O					0.37
72.500	0.00	0.70	0.620	O					0.37
72.583	0.00	0.69	0.615	O					0.36
72.667	0.00	0.69	0.611	O					0.36
72.750	0.00	0.68	0.606	O					0.36



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.833	0.00	0.68	0.601	0					0.36
72.917	0.00	0.67	0.597	0					0.35
73.000	0.00	0.67	0.592	0					0.35
73.083	0.00	0.66	0.587	0					0.35
73.167	0.00	0.66	0.583	0					0.34
73.250	0.00	0.65	0.578	0					0.34
73.333	0.00	0.65	0.574	0					0.34
73.417	0.00	0.64	0.569	0					0.34
73.500	0.00	0.64	0.565	0					0.33
73.583	0.00	0.63	0.561	0					0.33
73.667	0.00	0.63	0.556	0					0.33
73.750	0.00	0.62	0.552	0					0.33
73.833	0.00	0.62	0.548	0					0.32
73.917	0.00	0.61	0.544	0					0.32
74.000	0.00	0.61	0.539	0					0.32
74.083	0.00	0.60	0.535	0					0.32
74.167	0.00	0.60	0.531	0					0.31
74.250	0.00	0.59	0.527	0					0.31
74.333	0.00	0.59	0.523	0					0.31
74.417	0.00	0.59	0.519	0					0.31
74.500	0.00	0.58	0.515	0					0.30
74.583	0.00	0.58	0.511	0					0.30
74.667	0.00	0.57	0.507	0					0.30
74.750	0.00	0.57	0.503	0					0.30
74.833	0.00	0.56	0.499	0					0.29
74.917	0.00	0.56	0.495	0					0.29
75.000	0.00	0.55	0.491	0					0.29
75.083	0.00	0.55	0.488	0					0.29
75.167	0.00	0.55	0.484	0					0.29
75.250	0.00	0.54	0.480	0					0.28
75.333	0.00	0.54	0.476	0					0.28
75.417	0.00	0.53	0.473	0					0.28
75.500	0.00	0.53	0.469	0					0.28
75.583	0.00	0.52	0.465	0					0.27
75.667	0.00	0.52	0.462	0					0.27
75.750	0.00	0.52	0.458	0					0.27
75.833	0.00	0.51	0.455	0					0.27
75.917	0.00	0.51	0.451	0					0.27
76.000	0.00	0.50	0.448	0					0.26
76.083	0.00	0.50	0.444	0					0.26
76.167	0.00	0.50	0.441	0					0.26
76.250	0.00	0.49	0.437	0					0.26
76.333	0.00	0.49	0.434	0					0.26
76.417	0.00	0.49	0.431	0					0.25
76.500	0.00	0.48	0.427	0					0.25
76.583	0.00	0.48	0.424	0					0.25
76.667	0.00	0.47	0.421	0					0.25
76.750	0.00	0.47	0.417	0					0.25
76.833	0.00	0.47	0.414	0					0.24
76.917	0.00	0.46	0.411	0					0.24
77.000	0.00	0.46	0.408	0					0.24
77.083	0.00	0.46	0.405	0					0.24
77.167	0.00	0.45	0.401	0					0.24
77.250	0.00	0.45	0.398	0					0.24
77.333	0.00	0.45	0.395	0					0.23
77.417	0.00	0.44	0.392	0					0.23
77.500	0.00	0.44	0.389	0					0.23
77.583	0.00	0.44	0.386	0					0.23
77.667	0.00	0.43	0.383	0					0.23
77.750	0.00	0.43	0.380	0					0.22
77.833	0.00	0.43	0.377	0					0.22
77.917	0.00	0.42	0.374	0					0.22
78.000	0.00	0.42	0.371	0					0.22

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

78.083	0.00	0.42	0.369	0					0.22
78.167	0.00	0.41	0.366	0					0.22
78.250	0.00	0.41	0.363	0					0.21
78.333	0.00	0.41	0.360	0					0.21
78.417	0.00	0.40	0.357	0					0.21
78.500	0.00	0.40	0.355	0					0.21
78.583	0.00	0.40	0.352	0					0.21
78.667	0.00	0.39	0.349	0					0.21
78.750	0.00	0.39	0.346	0					0.20
78.833	0.00	0.39	0.344	0					0.20
78.917	0.00	0.38	0.341	0					0.20
79.000	0.00	0.38	0.338	0					0.20
79.083	0.00	0.38	0.336	0					0.20
79.167	0.00	0.38	0.333	0					0.20
79.250	0.00	0.37	0.331	0					0.20
79.333	0.00	0.37	0.328	0					0.19
79.417	0.00	0.37	0.325	0					0.19
79.500	0.00	0.36	0.323	0					0.19
79.583	0.00	0.36	0.320	0					0.19
79.667	0.00	0.36	0.318	0					0.19
79.750	0.00	0.36	0.316	0					0.19
79.833	0.00	0.35	0.313	0					0.18
79.917	0.00	0.35	0.311	0					0.18
80.000	0.00	0.35	0.308	0					0.18
80.083	0.00	0.35	0.306	0					0.18
80.167	0.00	0.34	0.303	0					0.18
80.250	0.00	0.34	0.301	0					0.18
80.333	0.00	0.34	0.299	0					0.18
80.417	0.00	0.33	0.297	0					0.18
80.500	0.00	0.33	0.294	0					0.17
80.583	0.00	0.33	0.292	0					0.17
80.667	0.00	0.33	0.290	0					0.17
80.750	0.00	0.32	0.287	0					0.17
80.833	0.00	0.32	0.285	0					0.17
80.917	0.00	0.32	0.283	0					0.17
81.000	0.00	0.32	0.281	0					0.17
81.083	0.00	0.31	0.279	0					0.16
81.167	0.00	0.31	0.276	0					0.16
81.250	0.00	0.31	0.274	0					0.16
81.333	0.00	0.31	0.272	0					0.16
81.417	0.00	0.30	0.270	0					0.16
81.500	0.00	0.30	0.268	0					0.16
81.583	0.00	0.30	0.266	0					0.16
81.667	0.00	0.30	0.264	0					0.16
81.750	0.00	0.30	0.262	0					0.15
81.833	0.00	0.29	0.260	0					0.15
81.917	0.00	0.29	0.258	0					0.15
82.000	0.00	0.29	0.256	0					0.15
82.083	0.00	0.29	0.254	0					0.15
82.167	0.00	0.28	0.252	0					0.15
82.250	0.00	0.28	0.250	0					0.15
82.333	0.00	0.28	0.248	0					0.15
82.417	0.00	0.28	0.246	0					0.15
82.500	0.00	0.28	0.244	0					0.14
82.583	0.00	0.27	0.242	0					0.14
82.667	0.00	0.27	0.240	0					0.14
82.750	0.00	0.27	0.239	0					0.14
82.833	0.00	0.27	0.237	0					0.14
82.917	0.00	0.26	0.235	0					0.14
83.000	0.00	0.26	0.233	0					0.14
83.083	0.00	0.26	0.231	0					0.14
83.167	0.00	0.26	0.229	0					0.14
83.250	0.00	0.26	0.228	0					0.13

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

83.333	0.00	0.25	0.226	0					0.13
83.417	0.00	0.25	0.224	0					0.13
83.500	0.00	0.25	0.222	0					0.13
83.583	0.00	0.25	0.221	0					0.13
83.667	0.00	0.25	0.219	0					0.13
83.750	0.00	0.25	0.217	0					0.13
83.833	0.00	0.24	0.216	0					0.13
83.917	0.00	0.24	0.214	0					0.13
84.000	0.00	0.24	0.212	0					0.13
84.083	0.00	0.24	0.211	0					0.12
84.167	0.00	0.24	0.209	0					0.12
84.250	0.00	0.23	0.207	0					0.12
84.333	0.00	0.23	0.206	0					0.12
84.417	0.00	0.23	0.204	0					0.12
84.500	0.00	0.23	0.203	0					0.12
84.583	0.00	0.23	0.201	0					0.12
84.667	0.00	0.23	0.199	0					0.12
84.750	0.00	0.22	0.198	0					0.12
84.833	0.00	0.22	0.196	0					0.12
84.917	0.00	0.22	0.195	0					0.12
85.000	0.00	0.22	0.193	0					0.11
85.083	0.00	0.22	0.192	0					0.11
85.167	0.00	0.21	0.190	0					0.11
85.250	0.00	0.21	0.189	0					0.11
85.333	0.00	0.21	0.187	0					0.11
85.417	0.00	0.21	0.186	0					0.11
85.500	0.00	0.21	0.185	0					0.11
85.583	0.00	0.21	0.183	0					0.11
85.667	0.00	0.21	0.182	0					0.11
85.750	0.00	0.20	0.180	0					0.11
85.833	0.00	0.20	0.179	0					0.11
85.917	0.00	0.20	0.178	0					0.10
86.000	0.00	0.20	0.176	0					0.10
86.083	0.00	0.20	0.175	0					0.10
86.167	0.00	0.20	0.173	0					0.10
86.250	0.00	0.19	0.172	0					0.10
86.333	0.00	0.19	0.171	0					0.10
86.417	0.00	0.19	0.169	0					0.10
86.500	0.00	0.19	0.168	0					0.10
86.583	0.00	0.19	0.167	0					0.10
86.667	0.00	0.19	0.166	0					0.10
86.750	0.00	0.19	0.164	0					0.10
86.833	0.00	0.18	0.163	0					0.10
86.917	0.00	0.18	0.162	0					0.10
87.000	0.00	0.18	0.160	0					0.09
87.083	0.00	0.18	0.159	0					0.09
87.167	0.00	0.18	0.158	0					0.09
87.250	0.00	0.18	0.157	0					0.09
87.333	0.00	0.18	0.156	0					0.09
87.417	0.00	0.17	0.154	0					0.09
87.500	0.00	0.17	0.153	0					0.09
87.583	0.00	0.17	0.152	0					0.09
87.667	0.00	0.17	0.151	0					0.09
87.750	0.00	0.17	0.150	0					0.09
87.833	0.00	0.17	0.148	0					0.09
87.917	0.00	0.17	0.147	0					0.09
88.000	0.00	0.16	0.146	0					0.09
88.083	0.00	0.16	0.145	0					0.09
88.167	0.00	0.16	0.144	0					0.09
88.250	0.00	0.16	0.143	0					0.08
88.333	0.00	0.16	0.142	0					0.08
88.417	0.00	0.16	0.141	0					0.08
88.500	0.00	0.16	0.140	0					0.08

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

88.583	0.00	0.16	0.138	0					0.08
88.667	0.00	0.16	0.137	0					0.08
88.750	0.00	0.15	0.136	0					0.08
88.833	0.00	0.15	0.135	0					0.08
88.917	0.00	0.15	0.134	0					0.08
89.000	0.00	0.15	0.133	0					0.08
89.083	0.00	0.15	0.132	0					0.08
89.167	0.00	0.15	0.131	0					0.08
89.250	0.00	0.15	0.130	0					0.08
89.333	0.00	0.15	0.129	0					0.08
89.417	0.00	0.14	0.128	0					0.08
89.500	0.00	0.14	0.127	0					0.08
89.583	0.00	0.14	0.126	0					0.07
89.667	0.00	0.14	0.125	0					0.07
89.750	0.00	0.14	0.124	0					0.07
89.833	0.00	0.14	0.123	0					0.07
89.917	0.00	0.14	0.122	0					0.07
90.000	0.00	0.14	0.121	0					0.07
90.083	0.00	0.14	0.120	0					0.07
90.167	0.00	0.13	0.119	0					0.07
90.250	0.00	0.13	0.119	0					0.07
90.333	0.00	0.13	0.118	0					0.07
90.417	0.00	0.13	0.117	0					0.07
90.500	0.00	0.13	0.116	0					0.07
90.583	0.00	0.13	0.115	0					0.07
90.667	0.00	0.13	0.114	0					0.07
90.750	0.00	0.13	0.113	0					0.07
90.833	0.00	0.13	0.112	0					0.07
90.917	0.00	0.13	0.111	0					0.07
91.000	0.00	0.12	0.111	0					0.07
91.083	0.00	0.12	0.110	0					0.06
91.167	0.00	0.12	0.109	0					0.06
91.250	0.00	0.12	0.108	0					0.06
91.333	0.00	0.12	0.107	0					0.06
91.417	0.00	0.12	0.106	0					0.06
91.500	0.00	0.12	0.105	0					0.06
91.583	0.00	0.12	0.105	0					0.06
91.667	0.00	0.12	0.104	0					0.06
91.750	0.00	0.12	0.103	0					0.06
91.833	0.00	0.12	0.102	0					0.06
91.917	0.00	0.11	0.101	0					0.06
92.000	0.00	0.11	0.101	0					0.06
92.083	0.00	0.11	0.100	0					0.06
92.167	0.00	0.11	0.099	0					0.06
92.250	0.00	0.11	0.098	0					0.06
92.333	0.00	0.11	0.098	0					0.06
92.417	0.00	0.11	0.097	0					0.06
92.500	0.00	0.11	0.096	0					0.06
92.583	0.00	0.11	0.095	0					0.06
92.667	0.00	0.11	0.095	0					0.06
92.750	0.00	0.11	0.094	0					0.06
92.833	0.00	0.11	0.093	0					0.06
92.917	0.00	0.10	0.092	0					0.05
93.000	0.00	0.10	0.092	0					0.05
93.083	0.00	0.10	0.091	0					0.05
93.167	0.00	0.10	0.090	0					0.05
93.250	0.00	0.10	0.090	0					0.05
93.333	0.00	0.10	0.089	0					0.05
93.417	0.00	0.10	0.088	0					0.05
93.500	0.00	0.10	0.088	0					0.05
93.583	0.00	0.10	0.087	0					0.05
93.667	0.00	0.10	0.086	0					0.05
93.750	0.00	0.10	0.086	0					0.05

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## ATTACHMENT E – Detention Basin Routing

93.833	0.00	0.10	0.085	o					0.05
93.917	0.00	0.10	0.084	o					0.05
94.000	0.00	0.09	0.084	o					0.05
94.083	0.00	0.09	0.083	o					0.05
94.167	0.00	0.09	0.082	o					0.05
94.250	0.00	0.09	0.082	o					0.05
94.333	0.00	0.09	0.081	o					0.05
94.417	0.00	0.09	0.080	o					0.05
94.500	0.00	0.09	0.080	o					0.05
94.583	0.00	0.09	0.079	o					0.05
94.667	0.00	0.09	0.079	o					0.05
94.750	0.00	0.09	0.078	o					0.05
94.833	0.00	0.09	0.077	o					0.05
94.917	0.00	0.09	0.077	o					0.05
95.000	0.00	0.09	0.076	o					0.04
95.083	0.00	0.09	0.076	o					0.04
95.167	0.00	0.08	0.075	o					0.04
95.250	0.00	0.08	0.074	o					0.04
95.333	0.00	0.08	0.074	o					0.04
95.417	0.00	0.08	0.073	o					0.04
95.500	0.00	0.08	0.073	o					0.04
95.583	0.00	0.08	0.072	o					0.04
95.667	0.00	0.08	0.072	o					0.04
95.750	0.00	0.08	0.071	o					0.04
95.833	0.00	0.08	0.070	o					0.04
95.917	0.00	0.08	0.070	o					0.04
96.000	0.00	0.08	0.069	o					0.04
96.083	0.00	0.08	0.069	o					0.04
96.167	0.00	0.08	0.068	o					0.04
96.250	0.00	0.08	0.068	o					0.04
96.333	0.00	0.08	0.067	o					0.04
96.417	0.00	0.08	0.067	o					0.04
96.500	0.00	0.07	0.066	o					0.04
96.583	0.00	0.07	0.066	o					0.04
96.667	0.00	0.07	0.065	o					0.04
96.750	0.00	0.07	0.065	o					0.04
96.833	0.00	0.07	0.064	o					0.04
96.917	0.00	0.07	0.064	o					0.04
97.000	0.00	0.07	0.063	o					0.04
97.083	0.00	0.07	0.063	o					0.04
97.167	0.00	0.07	0.062	o					0.04
97.250	0.00	0.07	0.062	o					0.04
97.333	0.00	0.07	0.061	o					0.04
97.417	0.00	0.07	0.061	o					0.04
97.500	0.00	0.07	0.060	o					0.04
97.583	0.00	0.07	0.060	o					0.04
97.667	0.00	0.07	0.059	o					0.04
97.750	0.00	0.07	0.059	o					0.03
97.833	0.00	0.07	0.058	o					0.03
97.917	0.00	0.07	0.058	o					0.03
98.000	0.00	0.06	0.058	o					0.03
98.083	0.00	0.06	0.057	o					0.03
98.167	0.00	0.06	0.057	o					0.03
98.250	0.00	0.06	0.056	o					0.03
98.333	0.00	0.06	0.056	o					0.03
98.417	0.00	0.06	0.055	o					0.03
98.500	0.00	0.06	0.055	o					0.03
98.583	0.00	0.06	0.055	o					0.03
98.667	0.00	0.06	0.054	o					0.03
98.750	0.00	0.06	0.054	o					0.03
98.833	0.00	0.06	0.053	o					0.03
98.917	0.00	0.06	0.053	o					0.03
99.000	0.00	0.06	0.052	o					0.03

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

99.083	0.00	0.06	0.052	0					0.03
99.167	0.00	0.06	0.052	0					0.03
99.250	0.00	0.06	0.051	0					0.03
99.333	0.00	0.06	0.051	0					0.03
99.417	0.00	0.06	0.050	0					0.03
99.500	0.00	0.06	0.050	0					0.03
99.583	0.00	0.06	0.050	0					0.03
99.667	0.00	0.06	0.049	0					0.03
99.750	0.00	0.06	0.049	0					0.03
99.833	0.00	0.05	0.049	0					0.03
99.917	0.00	0.05	0.048	0					0.03
100.000	0.00	0.05	0.048	0					0.03
100.083	0.00	0.05	0.047	0					0.03
100.167	0.00	0.05	0.047	0					0.03
100.250	0.00	0.05	0.047	0					0.03
100.333	0.00	0.05	0.046	0					0.03
100.417	0.00	0.05	0.046	0					0.03
100.500	0.00	0.05	0.046	0					0.03
100.583	0.00	0.05	0.045	0					0.03
100.667	0.00	0.05	0.045	0					0.03
100.750	0.00	0.05	0.045	0					0.03
100.833	0.00	0.05	0.044	0					0.03
100.917	0.00	0.05	0.044	0					0.03
101.000	0.00	0.05	0.044	0					0.03
101.083	0.00	0.05	0.043	0					0.03
101.167	0.00	0.05	0.043	0					0.03
101.250	0.00	0.05	0.043	0					0.03
101.333	0.00	0.05	0.042	0					0.02
101.417	0.00	0.05	0.042	0					0.02
101.500	0.00	0.05	0.042	0					0.02
101.583	0.00	0.05	0.041	0					0.02
101.667	0.00	0.05	0.041	0					0.02
101.750	0.00	0.05	0.041	0					0.02
101.833	0.00	0.05	0.040	0					0.02
101.917	0.00	0.05	0.040	0					0.02
102.000	0.00	0.04	0.040	0					0.02
102.083	0.00	0.04	0.039	0					0.02
102.167	0.00	0.04	0.039	0					0.02
102.250	0.00	0.04	0.039	0					0.02
102.333	0.00	0.04	0.038	0					0.02
102.417	0.00	0.04	0.038	0					0.02
102.500	0.00	0.04	0.038	0					0.02
102.583	0.00	0.04	0.038	0					0.02
102.667	0.00	0.04	0.037	0					0.02
102.750	0.00	0.04	0.037	0					0.02
102.833	0.00	0.04	0.037	0					0.02
102.917	0.00	0.04	0.036	0					0.02
103.000	0.00	0.04	0.036	0					0.02
103.083	0.00	0.04	0.036	0					0.02
103.167	0.00	0.04	0.036	0					0.02
103.250	0.00	0.04	0.035	0					0.02
103.333	0.00	0.04	0.035	0					0.02
103.417	0.00	0.04	0.035	0					0.02
103.500	0.00	0.04	0.034	0					0.02
103.583	0.00	0.04	0.034	0					0.02
103.667	0.00	0.04	0.034	0					0.02
103.750	0.00	0.04	0.034	0					0.02
103.833	0.00	0.04	0.033	0					0.02
103.917	0.00	0.04	0.033	0					0.02
104.000	0.00	0.04	0.033	0					0.02
104.083	0.00	0.04	0.033	0					0.02
104.167	0.00	0.04	0.032	0					0.02
104.250	0.00	0.04	0.032	0					0.02

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

104.333	0.00	0.04	0.032	o					0.02
104.417	0.00	0.04	0.032	o					0.02
104.500	0.00	0.04	0.031	o					0.02
104.583	0.00	0.04	0.031	o					0.02
104.667	0.00	0.03	0.031	o					0.02
104.750	0.00	0.03	0.031	o					0.02
104.833	0.00	0.03	0.030	o					0.02
104.917	0.00	0.03	0.030	o					0.02
105.000	0.00	0.03	0.030	o					0.02
105.083	0.00	0.03	0.030	o					0.02
105.167	0.00	0.03	0.030	o					0.02
105.250	0.00	0.03	0.029	o					0.02
105.333	0.00	0.03	0.029	o					0.02
105.417	0.00	0.03	0.029	o					0.02
105.500	0.00	0.03	0.029	o					0.02
105.583	0.00	0.03	0.028	o					0.02
105.667	0.00	0.03	0.028	o					0.02
105.750	0.00	0.03	0.028	o					0.02
105.833	0.00	0.03	0.028	o					0.02
105.917	0.00	0.03	0.028	o					0.02
106.000	0.00	0.03	0.027	o					0.02
106.083	0.00	0.03	0.027	o					0.02
106.167	0.00	0.03	0.027	o					0.02
106.250	0.00	0.03	0.027	o					0.02
106.333	0.00	0.03	0.026	o					0.02
106.417	0.00	0.03	0.026	o					0.02
106.500	0.00	0.03	0.026	o					0.02
106.583	0.00	0.03	0.026	o					0.02
106.667	0.00	0.03	0.026	o					0.02
106.750	0.00	0.03	0.025	o					0.02
106.833	0.00	0.03	0.025	o					0.01
106.917	0.00	0.03	0.025	o					0.01
107.000	0.00	0.03	0.025	o					0.01
107.083	0.00	0.03	0.025	o					0.01
107.167	0.00	0.03	0.024	o					0.01
107.250	0.00	0.03	0.024	o					0.01
107.333	0.00	0.03	0.024	o					0.01
107.417	0.00	0.03	0.024	o					0.01
107.500	0.00	0.03	0.024	o					0.01
107.583	0.00	0.03	0.024	o					0.01
107.667	0.00	0.03	0.023	o					0.01
107.750	0.00	0.03	0.023	o					0.01
107.833	0.00	0.03	0.023	o					0.01
107.917	0.00	0.03	0.023	o					0.01
108.000	0.00	0.03	0.023	o					0.01
108.083	0.00	0.03	0.022	o					0.01
108.167	0.00	0.03	0.022	o					0.01
108.250	0.00	0.02	0.022	o					0.01
108.333	0.00	0.02	0.022	o					0.01
108.417	0.00	0.02	0.022	o					0.01
108.500	0.00	0.02	0.022	o					0.01
108.583	0.00	0.02	0.021	o					0.01
108.667	0.00	0.02	0.021	o					0.01
108.750	0.00	0.02	0.021	o					0.01
108.833	0.00	0.02	0.021	o					0.01
108.917	0.00	0.02	0.021	o					0.01
109.000	0.00	0.02	0.021	o					0.01
109.083	0.00	0.02	0.020	o					0.01
109.167	0.00	0.02	0.020	o					0.01
109.250	0.00	0.02	0.020	o					0.01
109.333	0.00	0.02	0.020	o					0.01
109.417	0.00	0.02	0.020	o					0.01
109.500	0.00	0.02	0.020	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

109.583	0.00	0.02	0.020	o					0.01
109.667	0.00	0.02	0.019	o					0.01
109.750	0.00	0.02	0.019	o					0.01
109.833	0.00	0.02	0.019	o					0.01
109.917	0.00	0.02	0.019	o					0.01
110.000	0.00	0.02	0.019	o					0.01
110.083	0.00	0.02	0.019	o					0.01
110.167	0.00	0.02	0.019	o					0.01
110.250	0.00	0.02	0.018	o					0.01
110.333	0.00	0.02	0.018	o					0.01
110.417	0.00	0.02	0.018	o					0.01
110.500	0.00	0.02	0.018	o					0.01
110.583	0.00	0.02	0.018	o					0.01
110.667	0.00	0.02	0.018	o					0.01
110.750	0.00	0.02	0.018	o					0.01
110.833	0.00	0.02	0.017	o					0.01
110.917	0.00	0.02	0.017	o					0.01
111.000	0.00	0.02	0.017	o					0.01
111.083	0.00	0.02	0.017	o					0.01
111.167	0.00	0.02	0.017	o					0.01
111.250	0.00	0.02	0.017	o					0.01
111.333	0.00	0.02	0.017	o					0.01
111.417	0.00	0.02	0.016	o					0.01
111.500	0.00	0.02	0.016	o					0.01
111.583	0.00	0.02	0.016	o					0.01
111.667	0.00	0.02	0.016	o					0.01
111.750	0.00	0.02	0.016	o					0.01
111.833	0.00	0.02	0.016	o					0.01
111.917	0.00	0.02	0.016	o					0.01
112.000	0.00	0.02	0.016	o					0.01
112.083	0.00	0.02	0.015	o					0.01
112.167	0.00	0.02	0.015	o					0.01
112.250	0.00	0.02	0.015	o					0.01
112.333	0.00	0.02	0.015	o					0.01
112.417	0.00	0.02	0.015	o					0.01
112.500	0.00	0.02	0.015	o					0.01
112.583	0.00	0.02	0.015	o					0.01
112.667	0.00	0.02	0.015	o					0.01
112.750	0.00	0.02	0.015	o					0.01
112.833	0.00	0.02	0.014	o					0.01
112.917	0.00	0.02	0.014	o					0.01
113.000	0.00	0.02	0.014	o					0.01
113.083	0.00	0.02	0.014	o					0.01
113.167	0.00	0.02	0.014	o					0.01
113.250	0.00	0.02	0.014	o					0.01
113.333	0.00	0.02	0.014	o					0.01
113.417	0.00	0.02	0.014	o					0.01
113.500	0.00	0.02	0.014	o					0.01
113.583	0.00	0.02	0.013	o					0.01
113.667	0.00	0.02	0.013	o					0.01
113.750	0.00	0.01	0.013	o					0.01
113.833	0.00	0.01	0.013	o					0.01
113.917	0.00	0.01	0.013	o					0.01
114.000	0.00	0.01	0.013	o					0.01
114.083	0.00	0.01	0.013	o					0.01
114.167	0.00	0.01	0.013	o					0.01
114.250	0.00	0.01	0.013	o					0.01
114.333	0.00	0.01	0.013	o					0.01
114.417	0.00	0.01	0.012	o					0.01
114.500	0.00	0.01	0.012	o					0.01
114.583	0.00	0.01	0.012	o					0.01
114.667	0.00	0.01	0.012	o					0.01
114.750	0.00	0.01	0.012	o					0.01



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

114.833	0.00	0.01	0.012	o					0.01
114.917	0.00	0.01	0.012	o					0.01
115.000	0.00	0.01	0.012	o					0.01
115.083	0.00	0.01	0.012	o					0.01
115.167	0.00	0.01	0.012	o					0.01
115.250	0.00	0.01	0.012	o					0.01
115.333	0.00	0.01	0.011	o					0.01
115.417	0.00	0.01	0.011	o					0.01
115.500	0.00	0.01	0.011	o					0.01
115.583	0.00	0.01	0.011	o					0.01
115.667	0.00	0.01	0.011	o					0.01
115.750	0.00	0.01	0.011	o					0.01
115.833	0.00	0.01	0.011	o					0.01
115.917	0.00	0.01	0.011	o					0.01
116.000	0.00	0.01	0.011	o					0.01
116.083	0.00	0.01	0.011	o					0.01
116.167	0.00	0.01	0.011	o					0.01
116.250	0.00	0.01	0.010	o					0.01
116.333	0.00	0.01	0.010	o					0.01
116.417	0.00	0.01	0.010	o					0.01
116.500	0.00	0.01	0.010	o					0.01
116.583	0.00	0.01	0.010	o					0.01
116.667	0.00	0.01	0.010	o					0.01
116.750	0.00	0.01	0.010	o					0.01
116.833	0.00	0.01	0.010	o					0.01
116.917	0.00	0.01	0.010	o					0.01
117.000	0.00	0.01	0.010	o					0.01
117.083	0.00	0.01	0.010	o					0.01
117.167	0.00	0.01	0.010	o					0.01
117.250	0.00	0.01	0.010	o					0.01
117.333	0.00	0.01	0.009	o					0.01
117.417	0.00	0.01	0.009	o					0.01
117.500	0.00	0.01	0.009	o					0.01
117.583	0.00	0.01	0.009	o					0.01
117.667	0.00	0.01	0.009	o					0.01
117.750	0.00	0.01	0.009	o					0.01
117.833	0.00	0.01	0.009	o					0.01
117.917	0.00	0.01	0.009	o					0.01
118.000	0.00	0.01	0.009	o					0.01
118.083	0.00	0.01	0.009	o					0.01
118.167	0.00	0.01	0.009	o					0.01
118.250	0.00	0.01	0.009	o					0.01
118.333	0.00	0.01	0.009	o					0.01
118.417	0.00	0.01	0.009	o					0.01
118.500	0.00	0.01	0.009	o					0.01
118.583	0.00	0.01	0.008	o					0.00
118.667	0.00	0.01	0.008	o					0.00
118.750	0.00	0.01	0.008	o					0.00
118.833	0.00	0.01	0.008	o					0.00
118.917	0.00	0.01	0.008	o					0.00
119.000	0.00	0.01	0.008	o					0.00
119.083	0.00	0.01	0.008	o					0.00
119.167	0.00	0.01	0.008	o					0.00
119.250	0.00	0.01	0.008	o					0.00
119.333	0.00	0.01	0.008	o					0.00
119.417	0.00	0.01	0.008	o					0.00
119.500	0.00	0.01	0.008	o					0.00
119.583	0.00	0.01	0.008	o					0.00
119.667	0.00	0.01	0.008	o					0.00
119.750	0.00	0.01	0.008	o					0.00
119.833	0.00	0.01	0.008	o					0.00
119.917	0.00	0.01	0.007	o					0.00
120.000	0.00	0.01	0.007	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

120.083	0.00	0.01	0.007	0					0.00
120.167	0.00	0.01	0.007	0					0.00
120.250	0.00	0.01	0.007	0					0.00
120.333	0.00	0.01	0.007	0					0.00
120.417	0.00	0.01	0.007	0					0.00
120.500	0.00	0.01	0.007	0					0.00
120.583	0.00	0.01	0.007	0					0.00
120.667	0.00	0.01	0.007	0					0.00
120.750	0.00	0.01	0.007	0					0.00
120.833	0.00	0.01	0.007	0					0.00
120.917	0.00	0.01	0.007	0					0.00
121.000	0.00	0.01	0.007	0					0.00
121.083	0.00	0.01	0.007	0					0.00
121.167	0.00	0.01	0.007	0					0.00
121.250	0.00	0.01	0.007	0					0.00
121.333	0.00	0.01	0.007	0					0.00
121.417	0.00	0.01	0.006	0					0.00
121.500	0.00	0.01	0.006	0					0.00
121.583	0.00	0.01	0.006	0					0.00
121.667	0.00	0.01	0.006	0					0.00
121.750	0.00	0.01	0.006	0					0.00
121.833	0.00	0.01	0.006	0					0.00
121.917	0.00	0.01	0.006	0					0.00
122.000	0.00	0.01	0.006	0					0.00
122.083	0.00	0.01	0.006	0					0.00
122.167	0.00	0.01	0.006	0					0.00
122.250	0.00	0.01	0.006	0					0.00
122.333	0.00	0.01	0.006	0					0.00
122.417	0.00	0.01	0.006	0					0.00
122.500	0.00	0.01	0.006	0					0.00
122.583	0.00	0.01	0.006	0					0.00
122.667	0.00	0.01	0.006	0					0.00
122.750	0.00	0.01	0.006	0					0.00
122.833	0.00	0.01	0.006	0					0.00
122.917	0.00	0.01	0.006	0					0.00
123.000	0.00	0.01	0.006	0					0.00
123.083	0.00	0.01	0.006	0					0.00
123.167	0.00	0.01	0.006	0					0.00
123.250	0.00	0.01	0.005	0					0.00
123.333	0.00	0.01	0.005	0					0.00
123.417	0.00	0.01	0.005	0					0.00
123.500	0.00	0.01	0.005	0					0.00
123.583	0.00	0.01	0.005	0					0.00
123.667	0.00	0.01	0.005	0					0.00
123.750	0.00	0.01	0.005	0					0.00
123.833	0.00	0.01	0.005	0					0.00
123.917	0.00	0.01	0.005	0					0.00
124.000	0.00	0.01	0.005	0					0.00
124.083	0.00	0.01	0.005	0					0.00
124.167	0.00	0.01	0.005	0					0.00
124.250	0.00	0.01	0.005	0					0.00
124.333	0.00	0.01	0.005	0					0.00
124.417	0.00	0.01	0.005	0					0.00
124.500	0.00	0.01	0.005	0					0.00
124.583	0.00	0.01	0.005	0					0.00
124.667	0.00	0.01	0.005	0					0.00
124.750	0.00	0.01	0.005	0					0.00
124.833	0.00	0.01	0.005	0					0.00
124.917	0.00	0.01	0.005	0					0.00
125.000	0.00	0.01	0.005	0					0.00
125.083	0.00	0.01	0.005	0					0.00
125.167	0.00	0.01	0.005	0					0.00
125.250	0.00	0.01	0.005	0					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

125.333	0.00	0.01	0.005	o					0.00
125.417	0.00	0.01	0.004	o					0.00
125.500	0.00	0.00	0.004	o					0.00
125.583	0.00	0.00	0.004	o					0.00
125.667	0.00	0.00	0.004	o					0.00
125.750	0.00	0.00	0.004	o					0.00
125.833	0.00	0.00	0.004	o					0.00
125.917	0.00	0.00	0.004	o					0.00
126.000	0.00	0.00	0.004	o					0.00
126.083	0.00	0.00	0.004	o					0.00
126.167	0.00	0.00	0.004	o					0.00
126.250	0.00	0.00	0.004	o					0.00
126.333	0.00	0.00	0.004	o					0.00
126.417	0.00	0.00	0.004	o					0.00
126.500	0.00	0.00	0.004	o					0.00
126.583	0.00	0.00	0.004	o					0.00
126.667	0.00	0.00	0.004	o					0.00
126.750	0.00	0.00	0.004	o					0.00
126.833	0.00	0.00	0.004	o					0.00
126.917	0.00	0.00	0.004	o					0.00
127.000	0.00	0.00	0.004	o					0.00
127.083	0.00	0.00	0.004	o					0.00
127.167	0.00	0.00	0.004	o					0.00
127.250	0.00	0.00	0.004	o					0.00
127.333	0.00	0.00	0.004	o					0.00
127.417	0.00	0.00	0.004	o					0.00
127.500	0.00	0.00	0.004	o					0.00
127.583	0.00	0.00	0.004	o					0.00
127.667	0.00	0.00	0.004	o					0.00
127.750	0.00	0.00	0.004	o					0.00
127.833	0.00	0.00	0.004	o					0.00
127.917	0.00	0.00	0.004	o					0.00
128.000	0.00	0.00	0.004	o					0.00
128.083	0.00	0.00	0.003	o					0.00
128.167	0.00	0.00	0.003	o					0.00
128.250	0.00	0.00	0.003	o					0.00
128.333	0.00	0.00	0.003	o					0.00
128.417	0.00	0.00	0.003	o					0.00
128.500	0.00	0.00	0.003	o					0.00
128.583	0.00	0.00	0.003	o					0.00
128.667	0.00	0.00	0.003	o					0.00
128.750	0.00	0.00	0.003	o					0.00
128.833	0.00	0.00	0.003	o					0.00
128.917	0.00	0.00	0.003	o					0.00
129.000	0.00	0.00	0.003	o					0.00
129.083	0.00	0.00	0.003	o					0.00
129.167	0.00	0.00	0.003	o					0.00
129.250	0.00	0.00	0.003	o					0.00
129.333	0.00	0.00	0.003	o					0.00
129.417	0.00	0.00	0.003	o					0.00
129.500	0.00	0.00	0.003	o					0.00
129.583	0.00	0.00	0.003	o					0.00
129.667	0.00	0.00	0.003	o					0.00
129.750	0.00	0.00	0.003	o					0.00
129.833	0.00	0.00	0.003	o					0.00
129.917	0.00	0.00	0.003	o					0.00
130.000	0.00	0.00	0.003	o					0.00
130.083	0.00	0.00	0.003	o					0.00
130.167	0.00	0.00	0.003	o					0.00
130.250	0.00	0.00	0.003	o					0.00
130.333	0.00	0.00	0.003	o					0.00
130.417	0.00	0.00	0.003	o					0.00
130.500	0.00	0.00	0.003	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

130.583	0.00	0.00	0.003	o					0.00
130.667	0.00	0.00	0.003	o					0.00
130.750	0.00	0.00	0.003	o					0.00
130.833	0.00	0.00	0.003	o					0.00
130.917	0.00	0.00	0.003	o					0.00
131.000	0.00	0.00	0.003	o					0.00
131.083	0.00	0.00	0.003	o					0.00
131.167	0.00	0.00	0.003	o					0.00
131.250	0.00	0.00	0.003	o					0.00
131.333	0.00	0.00	0.003	o					0.00
131.417	0.00	0.00	0.003	o					0.00
131.500	0.00	0.00	0.003	o					0.00
131.583	0.00	0.00	0.003	o					0.00
131.667	0.00	0.00	0.002	o					0.00
131.750	0.00	0.00	0.002	o					0.00
131.833	0.00	0.00	0.002	o					0.00
131.917	0.00	0.00	0.002	o					0.00
132.000	0.00	0.00	0.002	o					0.00
132.083	0.00	0.00	0.002	o					0.00
132.167	0.00	0.00	0.002	o					0.00
132.250	0.00	0.00	0.002	o					0.00
132.333	0.00	0.00	0.002	o					0.00
132.417	0.00	0.00	0.002	o					0.00
132.500	0.00	0.00	0.002	o					0.00
132.583	0.00	0.00	0.002	o					0.00
132.667	0.00	0.00	0.002	o					0.00
132.750	0.00	0.00	0.002	o					0.00
132.833	0.00	0.00	0.002	o					0.00
132.917	0.00	0.00	0.002	o					0.00
133.000	0.00	0.00	0.002	o					0.00
133.083	0.00	0.00	0.002	o					0.00
133.167	0.00	0.00	0.002	o					0.00
133.250	0.00	0.00	0.002	o					0.00
133.333	0.00	0.00	0.002	o					0.00
133.417	0.00	0.00	0.002	o					0.00
133.500	0.00	0.00	0.002	o					0.00
133.583	0.00	0.00	0.002	o					0.00
133.667	0.00	0.00	0.002	o					0.00
133.750	0.00	0.00	0.002	o					0.00
133.833	0.00	0.00	0.002	o					0.00
133.917	0.00	0.00	0.002	o					0.00
134.000	0.00	0.00	0.002	o					0.00
134.083	0.00	0.00	0.002	o					0.00
134.167	0.00	0.00	0.002	o					0.00
134.250	0.00	0.00	0.002	o					0.00
134.333	0.00	0.00	0.002	o					0.00
134.417	0.00	0.00	0.002	o					0.00
134.500	0.00	0.00	0.002	o					0.00
134.583	0.00	0.00	0.002	o					0.00
134.667	0.00	0.00	0.002	o					0.00
134.750	0.00	0.00	0.002	o					0.00
134.833	0.00	0.00	0.002	o					0.00
134.917	0.00	0.00	0.002	o					0.00
135.000	0.00	0.00	0.002	o					0.00
135.083	0.00	0.00	0.002	o					0.00
135.167	0.00	0.00	0.002	o					0.00
135.250	0.00	0.00	0.002	o					0.00
135.333	0.00	0.00	0.002	o					0.00
135.417	0.00	0.00	0.002	o					0.00
135.500	0.00	0.00	0.002	o					0.00
135.583	0.00	0.00	0.002	o					0.00
135.667	0.00	0.00	0.002	o					0.00
135.750	0.00	0.00	0.002	o					0.00

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

135.833    0.00    0.00    0.002    0    |    |    |    |    0.00

Remaining water in basin =    0.00 (Ac.Ft)

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*

Number of intervals = 1630  
Time interval = 5.0 (Min.)  
Maximum/Peak flow rate = 18.306 (CFS)  
Total volume = 18.147 (Ac.Ft)  
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

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KELLER CROSSING
Drainage Area C = 91.5 Ac
Detention Basin Routing Basin C
100-year 1-hour storm
-----
```

Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

```

From study/file name: kxprh1100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 18
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 294.950 (CFS)
Total volume = 11.478 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

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User entry of depth-outflow-storage data

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-----
Total number of inflow hydrograph intervals = 18
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
-----
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-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
 -----

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	73.7	147.47	221.21	294.95	Depth (Ft.)
0.083	17.05	0.07	0.058	OI					0.03
0.167	51.48	0.33	0.293	O	I				0.17
0.250	65.65	0.78	0.693	O	I				0.41
0.333	77.90	1.33	1.180	O	I				0.70
0.417	83.83	1.92	1.725	O	I				1.02
0.500	91.86	2.04	2.317	O	I				1.30
0.583	106.74	2.17	2.986	O	I				1.61
0.667	127.11	2.33	3.776	O	I	I			1.99
0.750	158.09	2.47	4.741	O		I			2.34
0.833	249.93	2.66	6.129	O			I		2.85
0.917	294.95	2.85	7.986	O				I	3.45
1.000	166.09	3.01	9.554	O		I			3.94
1.083	95.95	8.81	10.415	O	I				4.19
1.167	40.75	12.22	10.814	O	I				4.30
1.250	21.76	13.31	10.941	O	I				4.34
1.333	12.46	13.53	10.966	O					4.35
1.417	3.69	13.22	10.930	O					4.34
1.500	1.26	12.60	10.858	O					4.32
1.583	0.00	11.92	10.778	O					4.29
1.667	0.00	11.23	10.698	O					4.27
1.750	0.00	10.59	10.623	O					4.25
1.833	0.00	9.98	10.552	O					4.23
1.917	0.00	9.41	10.485	O					4.21
2.000	0.00	8.87	10.422	O					4.19
2.083	0.00	8.36	10.363	O					4.18
2.167	0.00	7.88	10.307	O					4.16
2.250	0.00	7.43	10.254	O					4.15
2.333	0.00	7.00	10.205	O					4.13
2.417	0.00	6.60	10.158	O					4.12
2.500	0.00	6.22	10.114	O					4.11
2.583	0.00	5.87	10.072	O					4.09
2.667	0.00	5.53	10.033	O					4.08
2.750	0.00	5.21	9.996	O					4.07
2.833	0.00	4.91	9.961	O					4.06
2.917	0.00	4.63	9.928	O					4.05
3.000	0.00	4.37	9.897	O					4.04
3.083	0.00	4.12	9.868	O					4.04
3.167	0.00	3.88	9.840	O					4.03
3.250	0.00	3.66	9.814	O					4.02
3.333	0.00	3.45	9.790	O					4.01
3.417	0.00	3.25	9.767	O					4.01
3.500	0.00	3.06	9.745	O					4.00
3.583	0.00	3.03	9.724	O					3.99
3.667	0.00	3.03	9.703	O					3.99
3.750	0.00	3.02	9.682	O					3.98
3.833	0.00	3.02	9.662	O					3.98
3.917	0.00	3.02	9.641	O					3.97
4.000	0.00	3.02	9.620	O					3.96
4.083	0.00	3.02	9.599	O					3.96
4.167	0.00	3.01	9.578	O					3.95
4.250	0.00	3.01	9.558	O					3.94
4.333	0.00	3.01	9.537	O					3.94
4.417	0.00	3.01	9.516	O					3.93
4.500	0.00	3.01	9.495	O					3.92
4.583	0.00	3.00	9.475	O					3.92

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

4.667	0.00	3.00	9.454	0					3.91
4.750	0.00	3.00	9.433	0					3.90
4.833	0.00	3.00	9.413	0					3.90
4.917	0.00	3.00	9.392	0					3.89
5.000	0.00	2.99	9.372	0					3.88
5.083	0.00	2.99	9.351	0					3.88
5.167	0.00	2.99	9.330	0					3.87
5.250	0.00	2.99	9.310	0					3.87
5.333	0.00	2.98	9.289	0					3.86
5.417	0.00	2.98	9.269	0					3.85
5.500	0.00	2.98	9.248	0					3.85
5.583	0.00	2.98	9.228	0					3.84
5.667	0.00	2.98	9.207	0					3.83
5.750	0.00	2.97	9.187	0					3.83
5.833	0.00	2.97	9.166	0					3.82
5.917	0.00	2.97	9.146	0					3.81
6.000	0.00	2.97	9.125	0					3.81
6.083	0.00	2.97	9.105	0					3.80
6.167	0.00	2.96	9.084	0					3.80
6.250	0.00	2.96	9.064	0					3.79
6.333	0.00	2.96	9.044	0					3.78
6.417	0.00	2.96	9.023	0					3.78
6.500	0.00	2.96	9.003	0					3.77
6.583	0.00	2.95	8.982	0					3.76
6.667	0.00	2.95	8.962	0					3.76
6.750	0.00	2.95	8.942	0					3.75
6.833	0.00	2.95	8.921	0					3.74
6.917	0.00	2.95	8.901	0					3.74
7.000	0.00	2.94	8.881	0					3.73
7.083	0.00	2.94	8.861	0					3.73
7.167	0.00	2.94	8.840	0					3.72
7.250	0.00	2.94	8.820	0					3.71
7.333	0.00	2.94	8.800	0					3.71
7.417	0.00	2.93	8.780	0					3.70
7.500	0.00	2.93	8.759	0					3.69
7.583	0.00	2.93	8.739	0					3.69
7.667	0.00	2.93	8.719	0					3.68
7.750	0.00	2.93	8.699	0					3.68
7.833	0.00	2.92	8.679	0					3.67
7.917	0.00	2.92	8.659	0					3.66
8.000	0.00	2.92	8.639	0					3.66
8.083	0.00	2.92	8.618	0					3.65
8.167	0.00	2.92	8.598	0					3.64
8.250	0.00	2.91	8.578	0					3.64
8.333	0.00	2.91	8.558	0					3.63
8.417	0.00	2.91	8.538	0					3.62
8.500	0.00	2.91	8.518	0					3.62
8.583	0.00	2.91	8.498	0					3.61
8.667	0.00	2.90	8.478	0					3.61
8.750	0.00	2.90	8.458	0					3.60
8.833	0.00	2.90	8.438	0					3.59
8.917	0.00	2.90	8.418	0					3.59
9.000	0.00	2.90	8.398	0					3.58
9.083	0.00	2.89	8.378	0					3.58
9.167	0.00	2.89	8.358	0					3.57
9.250	0.00	2.89	8.338	0					3.56
9.333	0.00	2.89	8.319	0					3.56
9.417	0.00	2.89	8.299	0					3.55
9.500	0.00	2.88	8.279	0					3.54
9.583	0.00	2.88	8.259	0					3.54
9.667	0.00	2.88	8.239	0					3.53
9.750	0.00	2.88	8.219	0					3.53
9.833	0.00	2.88	8.199	0					3.52



**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

9.917	0.00	2.87	8.180	0					3.51
10.000	0.00	2.87	8.160	0					3.51
10.083	0.00	2.87	8.140	0					3.50
10.167	0.00	2.87	8.120	0					3.49
10.250	0.00	2.87	8.101	0					3.49
10.333	0.00	2.86	8.081	0					3.48
10.417	0.00	2.86	8.061	0					3.48
10.500	0.00	2.86	8.041	0					3.47
10.583	0.00	2.86	8.022	0					3.46
10.667	0.00	2.86	8.002	0					3.46
10.750	0.00	2.85	7.982	0					3.45
10.833	0.00	2.85	7.963	0					3.45
10.917	0.00	2.85	7.943	0					3.44
11.000	0.00	2.85	7.923	0					3.43
11.083	0.00	2.85	7.904	0					3.43
11.167	0.00	2.84	7.884	0					3.42
11.250	0.00	2.84	7.865	0					3.41
11.333	0.00	2.84	7.845	0					3.41
11.417	0.00	2.84	7.826	0					3.40
11.500	0.00	2.84	7.806	0					3.40
11.583	0.00	2.83	7.786	0					3.39
11.667	0.00	2.83	7.767	0					3.38
11.750	0.00	2.83	7.747	0					3.38
11.833	0.00	2.83	7.728	0					3.37
11.917	0.00	2.83	7.708	0					3.37
12.000	0.00	2.83	7.689	0					3.36
12.083	0.00	2.82	7.670	0					3.35
12.167	0.00	2.82	7.650	0					3.35
12.250	0.00	2.82	7.631	0					3.34
12.333	0.00	2.82	7.611	0					3.34
12.417	0.00	2.82	7.592	0					3.33
12.500	0.00	2.81	7.573	0					3.32
12.583	0.00	2.81	7.553	0					3.32
12.667	0.00	2.81	7.534	0					3.31
12.750	0.00	2.81	7.514	0					3.31
12.833	0.00	2.81	7.495	0					3.30
12.917	0.00	2.80	7.476	0					3.29
13.000	0.00	2.80	7.456	0					3.29
13.083	0.00	2.80	7.437	0					3.28
13.167	0.00	2.80	7.418	0					3.28
13.250	0.00	2.80	7.399	0					3.27
13.333	0.00	2.79	7.379	0					3.26
13.417	0.00	2.79	7.360	0					3.26
13.500	0.00	2.79	7.341	0					3.25
13.583	0.00	2.79	7.322	0					3.25
13.667	0.00	2.79	7.303	0					3.24
13.750	0.00	2.78	7.283	0					3.23
13.833	0.00	2.78	7.264	0					3.23
13.917	0.00	2.78	7.245	0					3.22
14.000	0.00	2.78	7.226	0					3.22
14.083	0.00	2.78	7.207	0					3.21
14.167	0.00	2.78	7.188	0					3.20
14.250	0.00	2.77	7.169	0					3.20
14.333	0.00	2.77	7.149	0					3.19
14.417	0.00	2.77	7.130	0					3.19
14.500	0.00	2.77	7.111	0					3.18
14.583	0.00	2.77	7.092	0					3.17
14.667	0.00	2.76	7.073	0					3.17
14.750	0.00	2.76	7.054	0					3.16
14.833	0.00	2.76	7.035	0					3.16
14.917	0.00	2.76	7.016	0					3.15
15.000	0.00	2.76	6.997	0					3.14
15.083	0.00	2.75	6.978	0					3.14

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

15.167	0.00	2.75	6.959	0					3.13
15.250	0.00	2.75	6.940	0					3.13
15.333	0.00	2.75	6.921	0					3.12
15.417	0.00	2.75	6.902	0					3.11
15.500	0.00	2.74	6.883	0					3.11
15.583	0.00	2.74	6.865	0					3.10
15.667	0.00	2.74	6.846	0					3.10
15.750	0.00	2.74	6.827	0					3.09
15.833	0.00	2.74	6.808	0					3.09
15.917	0.00	2.74	6.789	0					3.08
16.000	0.00	2.73	6.770	0					3.07
16.083	0.00	2.73	6.751	0					3.07
16.167	0.00	2.73	6.733	0					3.06
16.250	0.00	2.73	6.714	0					3.06
16.333	0.00	2.73	6.695	0					3.05
16.417	0.00	2.72	6.676	0					3.04
16.500	0.00	2.72	6.658	0					3.04
16.583	0.00	2.72	6.639	0					3.03
16.667	0.00	2.72	6.620	0					3.03
16.750	0.00	2.72	6.601	0					3.02
16.833	0.00	2.71	6.583	0					3.02
16.917	0.00	2.71	6.564	0					3.01
17.000	0.00	2.71	6.545	0					3.00
17.083	0.00	2.71	6.527	0					3.00
17.167	0.00	2.71	6.508	0					2.99
17.250	0.00	2.70	6.489	0					2.98
17.333	0.00	2.70	6.471	0					2.98
17.417	0.00	2.70	6.452	0					2.97
17.500	0.00	2.70	6.434	0					2.96
17.583	0.00	2.69	6.415	0					2.96
17.667	0.00	2.69	6.396	0					2.95
17.750	0.00	2.69	6.378	0					2.94
17.833	0.00	2.69	6.359	0					2.94
17.917	0.00	2.68	6.341	0					2.93
18.000	0.00	2.68	6.322	0					2.92
18.083	0.00	2.68	6.304	0					2.92
18.167	0.00	2.68	6.286	0					2.91
18.250	0.00	2.67	6.267	0					2.90
18.333	0.00	2.67	6.249	0					2.90
18.417	0.00	2.67	6.230	0					2.89
18.500	0.00	2.67	6.212	0					2.88
18.583	0.00	2.66	6.194	0					2.88
18.667	0.00	2.66	6.175	0					2.87
18.750	0.00	2.66	6.157	0					2.86
18.833	0.00	2.66	6.139	0					2.86
18.917	0.00	2.65	6.120	0					2.85
19.000	0.00	2.65	6.102	0					2.84
19.083	0.00	2.65	6.084	0					2.83
19.167	0.00	2.65	6.066	0					2.83
19.250	0.00	2.64	6.047	0					2.82
19.333	0.00	2.64	6.029	0					2.81
19.417	0.00	2.64	6.011	0					2.81
19.500	0.00	2.64	5.993	0					2.80
19.583	0.00	2.63	5.975	0					2.79
19.667	0.00	2.63	5.957	0					2.79
19.750	0.00	2.63	5.938	0					2.78
19.833	0.00	2.63	5.920	0					2.78
19.917	0.00	2.62	5.902	0					2.77
20.000	0.00	2.62	5.884	0					2.76
20.083	0.00	2.62	5.866	0					2.76
20.167	0.00	2.62	5.848	0					2.75
20.250	0.00	2.61	5.830	0					2.74
20.333	0.00	2.61	5.812	0					2.74

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.61	5.794	0					2.73
20.500	0.00	2.61	5.776	0					2.72
20.583	0.00	2.60	5.758	0					2.72
20.667	0.00	2.60	5.740	0					2.71
20.750	0.00	2.60	5.722	0					2.70
20.833	0.00	2.60	5.704	0					2.70
20.917	0.00	2.60	5.687	0					2.69
21.000	0.00	2.59	5.669	0					2.68
21.083	0.00	2.59	5.651	0					2.68
21.167	0.00	2.59	5.633	0					2.67
21.250	0.00	2.59	5.615	0					2.66
21.333	0.00	2.58	5.597	0					2.66
21.417	0.00	2.58	5.580	0					2.65
21.500	0.00	2.58	5.562	0					2.64
21.583	0.00	2.58	5.544	0					2.64
21.667	0.00	2.57	5.526	0					2.63
21.750	0.00	2.57	5.509	0					2.62
21.833	0.00	2.57	5.491	0					2.62
21.917	0.00	2.57	5.473	0					2.61
22.000	0.00	2.56	5.456	0					2.60
22.083	0.00	2.56	5.438	0					2.60
22.167	0.00	2.56	5.420	0					2.59
22.250	0.00	2.56	5.403	0					2.59
22.333	0.00	2.55	5.385	0					2.58
22.417	0.00	2.55	5.368	0					2.57
22.500	0.00	2.55	5.350	0					2.57
22.583	0.00	2.55	5.332	0					2.56
22.667	0.00	2.54	5.315	0					2.55
22.750	0.00	2.54	5.297	0					2.55
22.833	0.00	2.54	5.280	0					2.54
22.917	0.00	2.54	5.262	0					2.53
23.000	0.00	2.54	5.245	0					2.53
23.083	0.00	2.53	5.228	0					2.52
23.167	0.00	2.53	5.210	0					2.51
23.250	0.00	2.53	5.193	0					2.51
23.333	0.00	2.53	5.175	0					2.50
23.417	0.00	2.52	5.158	0					2.50
23.500	0.00	2.52	5.140	0					2.49
23.583	0.00	2.52	5.123	0					2.48
23.667	0.00	2.52	5.106	0					2.48
23.750	0.00	2.51	5.088	0					2.47
23.833	0.00	2.51	5.071	0					2.46
23.917	0.00	2.51	5.054	0					2.46
24.000	0.00	2.51	5.037	0					2.45
24.083	0.00	2.50	5.019	0					2.44
24.167	0.00	2.50	5.002	0					2.44
24.250	0.00	2.50	4.985	0					2.43
24.333	0.00	2.50	4.968	0					2.43
24.417	0.00	2.50	4.950	0					2.42
24.500	0.00	2.49	4.933	0					2.41
24.583	0.00	2.49	4.916	0					2.41
24.667	0.00	2.49	4.899	0					2.40
24.750	0.00	2.49	4.882	0					2.39
24.833	0.00	2.48	4.865	0					2.39
24.917	0.00	2.48	4.848	0					2.38
25.000	0.00	2.48	4.831	0					2.38
25.083	0.00	2.48	4.814	0					2.37
25.167	0.00	2.47	4.796	0					2.36
25.250	0.00	2.47	4.779	0					2.36
25.333	0.00	2.47	4.762	0					2.35
25.417	0.00	2.47	4.745	0					2.34
25.500	0.00	2.47	4.728	0					2.34
25.583	0.00	2.46	4.711	0					2.33

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.46	4.695	0					2.33
25.750	0.00	2.46	4.678	0					2.32
25.833	0.00	2.46	4.661	0					2.31
25.917	0.00	2.45	4.644	0					2.31
26.000	0.00	2.45	4.627	0					2.30
26.083	0.00	2.45	4.610	0					2.29
26.167	0.00	2.45	4.593	0					2.29
26.250	0.00	2.44	4.576	0					2.28
26.333	0.00	2.44	4.559	0					2.28
26.417	0.00	2.44	4.543	0					2.27
26.500	0.00	2.44	4.526	0					2.26
26.583	0.00	2.44	4.509	0					2.26
26.667	0.00	2.43	4.492	0					2.25
26.750	0.00	2.43	4.476	0					2.25
26.833	0.00	2.43	4.459	0					2.24
26.917	0.00	2.43	4.442	0					2.23
27.000	0.00	2.42	4.425	0					2.23
27.083	0.00	2.42	4.409	0					2.22
27.167	0.00	2.42	4.392	0					2.21
27.250	0.00	2.42	4.375	0					2.21
27.333	0.00	2.41	4.359	0					2.20
27.417	0.00	2.41	4.342	0					2.20
27.500	0.00	2.41	4.326	0					2.19
27.583	0.00	2.41	4.309	0					2.18
27.667	0.00	2.41	4.292	0					2.18
27.750	0.00	2.40	4.276	0					2.17
27.833	0.00	2.40	4.259	0					2.17
27.917	0.00	2.40	4.243	0					2.16
28.000	0.00	2.40	4.226	0					2.15
28.083	0.00	2.39	4.210	0					2.15
28.167	0.00	2.39	4.193	0					2.14
28.250	0.00	2.39	4.177	0					2.14
28.333	0.00	2.39	4.160	0					2.13
28.417	0.00	2.39	4.144	0					2.12
28.500	0.00	2.38	4.127	0					2.12
28.583	0.00	2.38	4.111	0					2.11
28.667	0.00	2.38	4.095	0					2.11
28.750	0.00	2.38	4.078	0					2.10
28.833	0.00	2.37	4.062	0					2.09
28.917	0.00	2.37	4.046	0					2.09
29.000	0.00	2.37	4.029	0					2.08
29.083	0.00	2.37	4.013	0					2.08
29.167	0.00	2.37	3.997	0					2.07
29.250	0.00	2.36	3.980	0					2.06
29.333	0.00	2.36	3.964	0					2.06
29.417	0.00	2.36	3.948	0					2.05
29.500	0.00	2.36	3.932	0					2.05
29.583	0.00	2.35	3.915	0					2.04
29.667	0.00	2.35	3.899	0					2.03
29.750	0.00	2.35	3.883	0					2.03
29.833	0.00	2.35	3.867	0					2.02
29.917	0.00	2.35	3.851	0					2.02
30.000	0.00	2.34	3.834	0					2.01
30.083	0.00	2.34	3.818	0					2.00
30.167	0.00	2.34	3.802	0					2.00
30.250	0.00	2.34	3.786	0					1.99
30.333	0.00	2.33	3.770	0					1.98
30.417	0.00	2.33	3.754	0					1.98
30.500	0.00	2.33	3.738	0					1.97
30.583	0.00	2.32	3.722	0					1.96
30.667	0.00	2.32	3.706	0					1.95
30.750	0.00	2.32	3.690	0					1.95
30.833	0.00	2.31	3.674	0					1.94

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	2.31	3.658	0					1.93
31.000	0.00	2.31	3.642	0					1.92
31.083	0.00	2.30	3.626	0					1.91
31.167	0.00	2.30	3.610	0					1.91
31.250	0.00	2.30	3.595	0					1.90
31.333	0.00	2.29	3.579	0					1.89
31.417	0.00	2.29	3.563	0					1.89
31.500	0.00	2.29	3.547	0					1.88
31.583	0.00	2.28	3.532	0					1.87
31.667	0.00	2.28	3.516	0					1.86
31.750	0.00	2.28	3.500	0					1.86
31.833	0.00	2.27	3.484	0					1.85
31.917	0.00	2.27	3.469	0					1.84
32.000	0.00	2.27	3.453	0					1.83
32.083	0.00	2.27	3.438	0					1.83
32.167	0.00	2.26	3.422	0					1.82
32.250	0.00	2.26	3.406	0					1.81
32.333	0.00	2.26	3.391	0					1.80
32.417	0.00	2.25	3.375	0					1.80
32.500	0.00	2.25	3.360	0					1.79
32.583	0.00	2.25	3.344	0					1.78
32.667	0.00	2.24	3.329	0					1.77
32.750	0.00	2.24	3.313	0					1.77
32.833	0.00	2.24	3.298	0					1.76
32.917	0.00	2.23	3.283	0					1.75
33.000	0.00	2.23	3.267	0					1.75
33.083	0.00	2.23	3.252	0					1.74
33.167	0.00	2.22	3.237	0					1.73
33.250	0.00	2.22	3.221	0					1.72
33.333	0.00	2.22	3.206	0					1.72
33.417	0.00	2.21	3.191	0					1.71
33.500	0.00	2.21	3.175	0					1.70
33.583	0.00	2.21	3.160	0					1.69
33.667	0.00	2.21	3.145	0					1.69
33.750	0.00	2.20	3.130	0					1.68
33.833	0.00	2.20	3.115	0					1.67
33.917	0.00	2.20	3.100	0					1.67
34.000	0.00	2.19	3.084	0					1.66
34.083	0.00	2.19	3.069	0					1.65
34.167	0.00	2.19	3.054	0					1.64
34.250	0.00	2.18	3.039	0					1.64
34.333	0.00	2.18	3.024	0					1.63
34.417	0.00	2.18	3.009	0					1.62
34.500	0.00	2.17	2.994	0					1.62
34.583	0.00	2.17	2.979	0					1.61
34.667	0.00	2.17	2.964	0					1.60
34.750	0.00	2.17	2.949	0					1.59
34.833	0.00	2.16	2.934	0					1.59
34.917	0.00	2.16	2.920	0					1.58
35.000	0.00	2.16	2.905	0					1.57
35.083	0.00	2.15	2.890	0					1.57
35.167	0.00	2.15	2.875	0					1.56
35.250	0.00	2.15	2.860	0					1.55
35.333	0.00	2.14	2.845	0					1.55
35.417	0.00	2.14	2.831	0					1.54
35.500	0.00	2.14	2.816	0					1.53
35.583	0.00	2.14	2.801	0					1.52
35.667	0.00	2.13	2.787	0					1.52
35.750	0.00	2.13	2.772	0					1.51
35.833	0.00	2.13	2.757	0					1.50
35.917	0.00	2.12	2.743	0					1.50
36.000	0.00	2.12	2.728	0					1.49
36.083	0.00	2.12	2.713	0					1.48

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

36.167	0.00	2.11	2.699	0					1.48
36.250	0.00	2.11	2.684	0					1.47
36.333	0.00	2.11	2.670	0					1.46
36.417	0.00	2.11	2.655	0					1.46
36.500	0.00	2.10	2.641	0					1.45
36.583	0.00	2.10	2.626	0					1.44
36.667	0.00	2.10	2.612	0					1.43
36.750	0.00	2.09	2.597	0					1.43
36.833	0.00	2.09	2.583	0					1.42
36.917	0.00	2.09	2.569	0					1.41
37.000	0.00	2.09	2.554	0					1.41
37.083	0.00	2.08	2.540	0					1.40
37.167	0.00	2.08	2.525	0					1.39
37.250	0.00	2.08	2.511	0					1.39
37.333	0.00	2.07	2.497	0					1.38
37.417	0.00	2.07	2.483	0					1.37
37.500	0.00	2.07	2.468	0					1.37
37.583	0.00	2.06	2.454	0					1.36
37.667	0.00	2.06	2.440	0					1.35
37.750	0.00	2.06	2.426	0					1.35
37.833	0.00	2.06	2.412	0					1.34
37.917	0.00	2.05	2.397	0					1.33
38.000	0.00	2.05	2.383	0					1.33
38.083	0.00	2.05	2.369	0					1.32
38.167	0.00	2.04	2.355	0					1.31
38.250	0.00	2.04	2.341	0					1.31
38.333	0.00	2.04	2.327	0					1.30
38.417	0.00	2.04	2.313	0					1.29
38.500	0.00	2.03	2.299	0					1.29
38.583	0.00	2.03	2.285	0					1.28
38.667	0.00	2.03	2.271	0					1.27
38.750	0.00	2.02	2.257	0					1.27
38.833	0.00	2.02	2.243	0					1.26
38.917	0.00	2.02	2.229	0					1.25
39.000	0.00	2.02	2.215	0					1.25
39.083	0.00	2.01	2.201	0					1.24
39.167	0.00	2.01	2.188	0					1.23
39.250	0.00	2.01	2.174	0					1.23
39.333	0.00	2.01	2.160	0					1.22
39.417	0.00	2.00	2.146	0					1.21
39.500	0.00	2.00	2.132	0					1.21
39.583	0.00	2.00	2.119	0					1.20
39.667	0.00	1.99	2.105	0					1.19
39.750	0.00	1.99	2.091	0					1.19
39.833	0.00	1.99	2.077	0					1.18
39.917	0.00	1.99	2.064	0					1.18
40.000	0.00	1.98	2.050	0					1.17
40.083	0.00	1.98	2.036	0					1.16
40.167	0.00	1.98	2.023	0					1.16
40.250	0.00	1.97	2.009	0					1.15
40.333	0.00	1.97	1.996	0					1.14
40.417	0.00	1.97	1.982	0					1.14
40.500	0.00	1.97	1.968	0					1.13
40.583	0.00	1.96	1.955	0					1.12
40.667	0.00	1.96	1.941	0					1.12
40.750	0.00	1.96	1.928	0					1.11
40.833	0.00	1.96	1.914	0					1.10
40.917	0.00	1.95	1.901	0					1.10
41.000	0.00	1.95	1.888	0					1.09
41.083	0.00	1.95	1.874	0					1.09
41.167	0.00	1.94	1.861	0					1.08
41.250	0.00	1.94	1.847	0					1.07
41.333	0.00	1.94	1.834	0					1.07

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

41.417	0.00	1.94	1.821	0					1.06
41.500	0.00	1.93	1.807	0					1.05
41.583	0.00	1.93	1.794	0					1.05
41.667	0.00	1.93	1.781	0					1.04
41.750	0.00	1.93	1.767	0					1.04
41.833	0.00	1.92	1.754	0					1.03
41.917	0.00	1.92	1.741	0					1.02
42.000	0.00	1.92	1.728	0					1.02
42.083	0.00	1.91	1.715	0					1.01
42.167	0.00	1.91	1.701	0					1.00
42.250	0.00	1.90	1.688	0					1.00
42.333	0.00	1.89	1.675	0					0.99
42.417	0.00	1.88	1.662	0					0.98
42.500	0.00	1.86	1.649	0					0.97
42.583	0.00	1.85	1.637	0					0.97
42.667	0.00	1.83	1.624	0					0.96
42.750	0.00	1.82	1.611	0					0.95
42.833	0.00	1.80	1.599	0					0.94
42.917	0.00	1.79	1.586	0					0.94
43.000	0.00	1.78	1.574	0					0.93
43.083	0.00	1.76	1.562	0					0.92
43.167	0.00	1.75	1.550	0					0.92
43.250	0.00	1.74	1.538	0					0.91
43.333	0.00	1.72	1.526	0					0.90
43.417	0.00	1.71	1.514	0					0.89
43.500	0.00	1.70	1.503	0					0.89
43.583	0.00	1.68	1.491	0					0.88
43.667	0.00	1.67	1.479	0					0.87
43.750	0.00	1.66	1.468	0					0.87
43.833	0.00	1.64	1.457	0					0.86
43.917	0.00	1.63	1.445	0					0.85
44.000	0.00	1.62	1.434	0					0.85
44.083	0.00	1.61	1.423	0					0.84
44.167	0.00	1.59	1.412	0					0.83
44.250	0.00	1.58	1.401	0					0.83
44.333	0.00	1.57	1.390	0					0.82
44.417	0.00	1.56	1.379	0					0.81
44.500	0.00	1.54	1.369	0					0.81
44.583	0.00	1.53	1.358	0					0.80
44.667	0.00	1.52	1.348	0					0.80
44.750	0.00	1.51	1.337	0					0.79
44.833	0.00	1.50	1.327	0					0.78
44.917	0.00	1.49	1.317	0					0.78
45.000	0.00	1.47	1.306	0					0.77
45.083	0.00	1.46	1.296	0					0.77
45.167	0.00	1.45	1.286	0					0.76
45.250	0.00	1.44	1.276	0					0.75
45.333	0.00	1.43	1.266	0					0.75
45.417	0.00	1.42	1.257	0					0.74
45.500	0.00	1.41	1.247	0					0.74
45.583	0.00	1.40	1.237	0					0.73
45.667	0.00	1.39	1.228	0					0.73
45.750	0.00	1.37	1.218	0					0.72
45.833	0.00	1.36	1.209	0					0.71
45.917	0.00	1.35	1.199	0					0.71
46.000	0.00	1.34	1.190	0					0.70
46.083	0.00	1.33	1.181	0					0.70
46.167	0.00	1.32	1.172	0					0.69
46.250	0.00	1.31	1.163	0					0.69
46.333	0.00	1.30	1.154	0					0.68
46.417	0.00	1.29	1.145	0					0.68
46.500	0.00	1.28	1.136	0					0.67
46.583	0.00	1.27	1.127	0					0.67

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

46.667	0.00	1.26	1.118	0					0.66
46.750	0.00	1.25	1.110	0					0.66
46.833	0.00	1.24	1.101	0					0.65
46.917	0.00	1.23	1.093	0					0.65
47.000	0.00	1.22	1.084	0					0.64
47.083	0.00	1.21	1.076	0					0.64
47.167	0.00	1.20	1.067	0					0.63
47.250	0.00	1.19	1.059	0					0.63
47.333	0.00	1.19	1.051	0					0.62
47.417	0.00	1.18	1.043	0					0.62
47.500	0.00	1.17	1.035	0					0.61
47.583	0.00	1.16	1.027	0					0.61
47.667	0.00	1.15	1.019	0					0.60
47.750	0.00	1.14	1.011	0					0.60
47.833	0.00	1.13	1.003	0					0.59
47.917	0.00	1.12	0.995	0					0.59
48.000	0.00	1.11	0.988	0					0.58
48.083	0.00	1.11	0.980	0					0.58
48.167	0.00	1.10	0.972	0					0.57
48.250	0.00	1.09	0.965	0					0.57
48.333	0.00	1.08	0.957	0					0.57
48.417	0.00	1.07	0.950	0					0.56
48.500	0.00	1.06	0.943	0					0.56
48.583	0.00	1.06	0.935	0					0.55
48.667	0.00	1.05	0.928	0					0.55
48.750	0.00	1.04	0.921	0					0.54
48.833	0.00	1.03	0.914	0					0.54
48.917	0.00	1.02	0.907	0					0.54
49.000	0.00	1.02	0.900	0					0.53
49.083	0.00	1.01	0.893	0					0.53
49.167	0.00	1.00	0.886	0					0.52
49.250	0.00	0.99	0.879	0					0.52
49.333	0.00	0.98	0.872	0					0.52
49.417	0.00	0.98	0.865	0					0.51
49.500	0.00	0.97	0.859	0					0.51
49.583	0.00	0.96	0.852	0					0.50
49.667	0.00	0.95	0.845	0					0.50
49.750	0.00	0.95	0.839	0					0.50
49.833	0.00	0.94	0.832	0					0.49
49.917	0.00	0.93	0.826	0					0.49
50.000	0.00	0.92	0.820	0					0.48
50.083	0.00	0.92	0.813	0					0.48
50.167	0.00	0.91	0.807	0					0.48
50.250	0.00	0.90	0.801	0					0.47
50.333	0.00	0.90	0.795	0					0.47
50.417	0.00	0.89	0.788	0					0.47
50.500	0.00	0.88	0.782	0					0.46
50.583	0.00	0.88	0.776	0					0.46
50.667	0.00	0.87	0.770	0					0.45
50.750	0.00	0.86	0.764	0					0.45
50.833	0.00	0.86	0.758	0					0.45
50.917	0.00	0.85	0.752	0					0.44
51.000	0.00	0.84	0.747	0					0.44
51.083	0.00	0.84	0.741	0					0.44
51.167	0.00	0.83	0.735	0					0.43
51.250	0.00	0.82	0.729	0					0.43
51.333	0.00	0.82	0.724	0					0.43
51.417	0.00	0.81	0.718	0					0.42
51.500	0.00	0.80	0.713	0					0.42
51.583	0.00	0.80	0.707	0					0.42
51.667	0.00	0.79	0.702	0					0.41
51.750	0.00	0.79	0.696	0					0.41
51.833	0.00	0.78	0.691	0					0.41



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	0.77	0.685	0					0.40
52.000	0.00	0.77	0.680	0					0.40
52.083	0.00	0.76	0.675	0					0.40
52.167	0.00	0.76	0.670	0					0.40
52.250	0.00	0.75	0.665	0					0.39
52.333	0.00	0.74	0.659	0					0.39
52.417	0.00	0.74	0.654	0					0.39
52.500	0.00	0.73	0.649	0					0.38
52.583	0.00	0.73	0.644	0					0.38
52.667	0.00	0.72	0.639	0					0.38
52.750	0.00	0.72	0.634	0					0.37
52.833	0.00	0.71	0.629	0					0.37
52.917	0.00	0.70	0.624	0					0.37
53.000	0.00	0.70	0.620	0					0.37
53.083	0.00	0.69	0.615	0					0.36
53.167	0.00	0.69	0.610	0					0.36
53.250	0.00	0.68	0.605	0					0.36
53.333	0.00	0.68	0.601	0					0.35
53.417	0.00	0.67	0.596	0					0.35
53.500	0.00	0.67	0.591	0					0.35
53.583	0.00	0.66	0.587	0					0.35
53.667	0.00	0.66	0.582	0					0.34
53.750	0.00	0.65	0.578	0					0.34
53.833	0.00	0.65	0.573	0					0.34
53.917	0.00	0.64	0.569	0					0.34
54.000	0.00	0.64	0.564	0					0.33
54.083	0.00	0.63	0.560	0					0.33
54.167	0.00	0.63	0.556	0					0.33
54.250	0.00	0.62	0.551	0					0.33
54.333	0.00	0.62	0.547	0					0.32
54.417	0.00	0.61	0.543	0					0.32
54.500	0.00	0.61	0.539	0					0.32
54.583	0.00	0.60	0.535	0					0.32
54.667	0.00	0.60	0.530	0					0.31
54.750	0.00	0.59	0.526	0					0.31
54.833	0.00	0.59	0.522	0					0.31
54.917	0.00	0.58	0.518	0					0.31
55.000	0.00	0.58	0.514	0					0.30
55.083	0.00	0.58	0.510	0					0.30
55.167	0.00	0.57	0.506	0					0.30
55.250	0.00	0.57	0.502	0					0.30
55.333	0.00	0.56	0.498	0					0.29
55.417	0.00	0.56	0.495	0					0.29
55.500	0.00	0.55	0.491	0					0.29
55.583	0.00	0.55	0.487	0					0.29
55.667	0.00	0.55	0.483	0					0.29
55.750	0.00	0.54	0.479	0					0.28
55.833	0.00	0.54	0.476	0					0.28
55.917	0.00	0.53	0.472	0					0.28
56.000	0.00	0.53	0.468	0					0.28
56.083	0.00	0.52	0.465	0					0.27
56.167	0.00	0.52	0.461	0					0.27
56.250	0.00	0.52	0.458	0					0.27
56.333	0.00	0.51	0.454	0					0.27
56.417	0.00	0.51	0.451	0					0.27
56.500	0.00	0.50	0.447	0					0.26
56.583	0.00	0.50	0.444	0					0.26
56.667	0.00	0.50	0.440	0					0.26
56.750	0.00	0.49	0.437	0					0.26
56.833	0.00	0.49	0.433	0					0.26
56.917	0.00	0.49	0.430	0					0.25
57.000	0.00	0.48	0.427	0					0.25
57.083	0.00	0.48	0.423	0					0.25

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

57.167	0.00	0.47	0.420	o					0.25
57.250	0.00	0.47	0.417	o					0.25
57.333	0.00	0.47	0.414	o					0.24
57.417	0.00	0.46	0.410	o					0.24
57.500	0.00	0.46	0.407	o					0.24
57.583	0.00	0.46	0.404	o					0.24
57.667	0.00	0.45	0.401	o					0.24
57.750	0.00	0.45	0.398	o					0.24
57.833	0.00	0.45	0.395	o					0.23
57.917	0.00	0.44	0.392	o					0.23
58.000	0.00	0.44	0.389	o					0.23
58.083	0.00	0.44	0.386	o					0.23
58.167	0.00	0.43	0.383	o					0.23
58.250	0.00	0.43	0.380	o					0.22
58.333	0.00	0.43	0.377	o					0.22
58.417	0.00	0.42	0.374	o					0.22
58.500	0.00	0.42	0.371	o					0.22
58.583	0.00	0.42	0.368	o					0.22
58.667	0.00	0.41	0.365	o					0.22
58.750	0.00	0.41	0.362	o					0.21
58.833	0.00	0.41	0.360	o					0.21
58.917	0.00	0.40	0.357	o					0.21
59.000	0.00	0.40	0.354	o					0.21
59.083	0.00	0.40	0.351	o					0.21
59.167	0.00	0.39	0.349	o					0.21
59.250	0.00	0.39	0.346	o					0.20
59.333	0.00	0.39	0.343	o					0.20
59.417	0.00	0.38	0.341	o					0.20
59.500	0.00	0.38	0.338	o					0.20
59.583	0.00	0.38	0.335	o					0.20
59.667	0.00	0.38	0.333	o					0.20
59.750	0.00	0.37	0.330	o					0.20
59.833	0.00	0.37	0.328	o					0.19
59.917	0.00	0.37	0.325	o					0.19
60.000	0.00	0.36	0.323	o					0.19
60.083	0.00	0.36	0.320	o					0.19
60.167	0.00	0.36	0.318	o					0.19
60.250	0.00	0.36	0.315	o					0.19
60.333	0.00	0.35	0.313	o					0.18
60.417	0.00	0.35	0.310	o					0.18
60.500	0.00	0.35	0.308	o					0.18
60.583	0.00	0.34	0.306	o					0.18
60.667	0.00	0.34	0.303	o					0.18
60.750	0.00	0.34	0.301	o					0.18
60.833	0.00	0.34	0.298	o					0.18
60.917	0.00	0.33	0.296	o					0.17
61.000	0.00	0.33	0.294	o					0.17
61.083	0.00	0.33	0.292	o					0.17
61.167	0.00	0.33	0.289	o					0.17
61.250	0.00	0.32	0.287	o					0.17
61.333	0.00	0.32	0.285	o					0.17
61.417	0.00	0.32	0.283	o					0.17
61.500	0.00	0.32	0.281	o					0.17
61.583	0.00	0.31	0.278	o					0.16
61.667	0.00	0.31	0.276	o					0.16
61.750	0.00	0.31	0.274	o					0.16
61.833	0.00	0.31	0.272	o					0.16
61.917	0.00	0.30	0.270	o					0.16
62.000	0.00	0.30	0.268	o					0.16
62.083	0.00	0.30	0.266	o					0.16
62.167	0.00	0.30	0.264	o					0.16
62.250	0.00	0.30	0.262	o					0.15
62.333	0.00	0.29	0.260	o					0.15

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.29	0.258	0					0.15
62.500	0.00	0.29	0.256	0					0.15
62.583	0.00	0.29	0.254	0					0.15
62.667	0.00	0.28	0.252	0					0.15
62.750	0.00	0.28	0.250	0					0.15
62.833	0.00	0.28	0.248	0					0.15
62.917	0.00	0.28	0.246	0					0.15
63.000	0.00	0.28	0.244	0					0.14
63.083	0.00	0.27	0.242	0					0.14
63.167	0.00	0.27	0.240	0					0.14
63.250	0.00	0.27	0.238	0					0.14
63.333	0.00	0.27	0.236	0					0.14
63.417	0.00	0.26	0.235	0					0.14
63.500	0.00	0.26	0.233	0					0.14
63.583	0.00	0.26	0.231	0					0.14
63.667	0.00	0.26	0.229	0					0.14
63.750	0.00	0.26	0.227	0					0.13
63.833	0.00	0.25	0.226	0					0.13
63.917	0.00	0.25	0.224	0					0.13
64.000	0.00	0.25	0.222	0					0.13
64.083	0.00	0.25	0.220	0					0.13
64.167	0.00	0.25	0.219	0					0.13
64.250	0.00	0.24	0.217	0					0.13
64.333	0.00	0.24	0.215	0					0.13
64.417	0.00	0.24	0.214	0					0.13
64.500	0.00	0.24	0.212	0					0.13
64.583	0.00	0.24	0.210	0					0.12
64.667	0.00	0.24	0.209	0					0.12
64.750	0.00	0.23	0.207	0					0.12
64.833	0.00	0.23	0.206	0					0.12
64.917	0.00	0.23	0.204	0					0.12
65.000	0.00	0.23	0.202	0					0.12
65.083	0.00	0.23	0.201	0					0.12
65.167	0.00	0.22	0.199	0					0.12
65.250	0.00	0.22	0.198	0					0.12
65.333	0.00	0.22	0.196	0					0.12
65.417	0.00	0.22	0.195	0					0.11
65.500	0.00	0.22	0.193	0					0.11
65.583	0.00	0.22	0.192	0					0.11
65.667	0.00	0.21	0.190	0					0.11
65.750	0.00	0.21	0.189	0					0.11
65.833	0.00	0.21	0.187	0					0.11
65.917	0.00	0.21	0.186	0					0.11
66.000	0.00	0.21	0.184	0					0.11
66.083	0.00	0.21	0.183	0					0.11
66.167	0.00	0.20	0.182	0					0.11
66.250	0.00	0.20	0.180	0					0.11
66.333	0.00	0.20	0.179	0					0.11
66.417	0.00	0.20	0.177	0					0.10
66.500	0.00	0.20	0.176	0					0.10
66.583	0.00	0.20	0.175	0					0.10
66.667	0.00	0.20	0.173	0					0.10
66.750	0.00	0.19	0.172	0					0.10
66.833	0.00	0.19	0.171	0					0.10
66.917	0.00	0.19	0.169	0					0.10
67.000	0.00	0.19	0.168	0					0.10
67.083	0.00	0.19	0.167	0					0.10
67.167	0.00	0.19	0.165	0					0.10
67.250	0.00	0.19	0.164	0					0.10
67.333	0.00	0.18	0.163	0					0.10
67.417	0.00	0.18	0.162	0					0.10
67.500	0.00	0.18	0.160	0					0.09
67.583	0.00	0.18	0.159	0					0.09

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.18	0.158	0					0.09
67.750	0.00	0.18	0.157	0					0.09
67.833	0.00	0.18	0.155	0					0.09
67.917	0.00	0.17	0.154	0					0.09
68.000	0.00	0.17	0.153	0					0.09
68.083	0.00	0.17	0.152	0					0.09
68.167	0.00	0.17	0.151	0					0.09
68.250	0.00	0.17	0.149	0					0.09
68.333	0.00	0.17	0.148	0					0.09
68.417	0.00	0.17	0.147	0					0.09
68.500	0.00	0.16	0.146	0					0.09
68.583	0.00	0.16	0.145	0					0.09
68.667	0.00	0.16	0.144	0					0.08
68.750	0.00	0.16	0.143	0					0.08
68.833	0.00	0.16	0.142	0					0.08
68.917	0.00	0.16	0.140	0					0.08
69.000	0.00	0.16	0.139	0					0.08
69.083	0.00	0.16	0.138	0					0.08
69.167	0.00	0.15	0.137	0					0.08
69.250	0.00	0.15	0.136	0					0.08
69.333	0.00	0.15	0.135	0					0.08
69.417	0.00	0.15	0.134	0					0.08
69.500	0.00	0.15	0.133	0					0.08
69.583	0.00	0.15	0.132	0					0.08
69.667	0.00	0.15	0.131	0					0.08
69.750	0.00	0.15	0.130	0					0.08
69.833	0.00	0.15	0.129	0					0.08
69.917	0.00	0.14	0.128	0					0.08
70.000	0.00	0.14	0.127	0					0.08
70.083	0.00	0.14	0.126	0					0.07
70.167	0.00	0.14	0.125	0					0.07
70.250	0.00	0.14	0.124	0					0.07
70.333	0.00	0.14	0.123	0					0.07
70.417	0.00	0.14	0.122	0					0.07
70.500	0.00	0.14	0.121	0					0.07
70.583	0.00	0.14	0.120	0					0.07
70.667	0.00	0.13	0.119	0					0.07
70.750	0.00	0.13	0.118	0					0.07
70.833	0.00	0.13	0.117	0					0.07
70.917	0.00	0.13	0.117	0					0.07
71.000	0.00	0.13	0.116	0					0.07
71.083	0.00	0.13	0.115	0					0.07
71.167	0.00	0.13	0.114	0					0.07
71.250	0.00	0.13	0.113	0					0.07
71.333	0.00	0.13	0.112	0					0.07
71.417	0.00	0.13	0.111	0					0.07
71.500	0.00	0.12	0.110	0					0.07
71.583	0.00	0.12	0.110	0					0.06
71.667	0.00	0.12	0.109	0					0.06
71.750	0.00	0.12	0.108	0					0.06
71.833	0.00	0.12	0.107	0					0.06
71.917	0.00	0.12	0.106	0					0.06
72.000	0.00	0.12	0.105	0					0.06
72.083	0.00	0.12	0.105	0					0.06
72.167	0.00	0.12	0.104	0					0.06
72.250	0.00	0.12	0.103	0					0.06
72.333	0.00	0.12	0.102	0					0.06
72.417	0.00	0.11	0.101	0					0.06
72.500	0.00	0.11	0.101	0					0.06
72.583	0.00	0.11	0.100	0					0.06
72.667	0.00	0.11	0.099	0					0.06
72.750	0.00	0.11	0.098	0					0.06
72.833	0.00	0.11	0.098	0					0.06

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## ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.11	0.097	o					0.06
73.000	0.00	0.11	0.096	o					0.06
73.083	0.00	0.11	0.095	o					0.06
73.167	0.00	0.11	0.095	o					0.06
73.250	0.00	0.11	0.094	o					0.06
73.333	0.00	0.10	0.093	o					0.05
73.417	0.00	0.10	0.092	o					0.05
73.500	0.00	0.10	0.092	o					0.05
73.583	0.00	0.10	0.091	o					0.05
73.667	0.00	0.10	0.090	o					0.05
73.750	0.00	0.10	0.090	o					0.05
73.833	0.00	0.10	0.089	o					0.05
73.917	0.00	0.10	0.088	o					0.05
74.000	0.00	0.10	0.087	o					0.05
74.083	0.00	0.10	0.087	o					0.05
74.167	0.00	0.10	0.086	o					0.05
74.250	0.00	0.10	0.085	o					0.05
74.333	0.00	0.10	0.085	o					0.05
74.417	0.00	0.09	0.084	o					0.05
74.500	0.00	0.09	0.083	o					0.05
74.583	0.00	0.09	0.083	o					0.05
74.667	0.00	0.09	0.082	o					0.05
74.750	0.00	0.09	0.082	o					0.05
74.833	0.00	0.09	0.081	o					0.05
74.917	0.00	0.09	0.080	o					0.05
75.000	0.00	0.09	0.080	o					0.05
75.083	0.00	0.09	0.079	o					0.05
75.167	0.00	0.09	0.078	o					0.05
75.250	0.00	0.09	0.078	o					0.05
75.333	0.00	0.09	0.077	o					0.05
75.417	0.00	0.09	0.077	o					0.05
75.500	0.00	0.09	0.076	o					0.04
75.583	0.00	0.09	0.075	o					0.04
75.667	0.00	0.08	0.075	o					0.04
75.750	0.00	0.08	0.074	o					0.04
75.833	0.00	0.08	0.074	o					0.04
75.917	0.00	0.08	0.073	o					0.04
76.000	0.00	0.08	0.073	o					0.04
76.083	0.00	0.08	0.072	o					0.04
76.167	0.00	0.08	0.071	o					0.04
76.250	0.00	0.08	0.071	o					0.04
76.333	0.00	0.08	0.070	o					0.04
76.417	0.00	0.08	0.070	o					0.04
76.500	0.00	0.08	0.069	o					0.04
76.583	0.00	0.08	0.069	o					0.04
76.667	0.00	0.08	0.068	o					0.04
76.750	0.00	0.08	0.068	o					0.04
76.833	0.00	0.08	0.067	o					0.04
76.917	0.00	0.08	0.067	o					0.04
77.000	0.00	0.07	0.066	o					0.04
77.083	0.00	0.07	0.066	o					0.04
77.167	0.00	0.07	0.065	o					0.04
77.250	0.00	0.07	0.065	o					0.04
77.333	0.00	0.07	0.064	o					0.04
77.417	0.00	0.07	0.064	o					0.04
77.500	0.00	0.07	0.063	o					0.04
77.583	0.00	0.07	0.063	o					0.04
77.667	0.00	0.07	0.062	o					0.04
77.750	0.00	0.07	0.062	o					0.04
77.833	0.00	0.07	0.061	o					0.04
77.917	0.00	0.07	0.061	o					0.04
78.000	0.00	0.07	0.060	o					0.04
78.083	0.00	0.07	0.060	o					0.04

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### ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.07	0.059	0					0.04
78.250	0.00	0.07	0.059	0					0.03
78.333	0.00	0.07	0.058	0					0.03
78.417	0.00	0.07	0.058	0					0.03
78.500	0.00	0.06	0.057	0					0.03
78.583	0.00	0.06	0.057	0					0.03
78.667	0.00	0.06	0.057	0					0.03
78.750	0.00	0.06	0.056	0					0.03
78.833	0.00	0.06	0.056	0					0.03
78.917	0.00	0.06	0.055	0					0.03
79.000	0.00	0.06	0.055	0					0.03
79.083	0.00	0.06	0.054	0					0.03
79.167	0.00	0.06	0.054	0					0.03
79.250	0.00	0.06	0.054	0					0.03
79.333	0.00	0.06	0.053	0					0.03
79.417	0.00	0.06	0.053	0					0.03
79.500	0.00	0.06	0.052	0					0.03
79.583	0.00	0.06	0.052	0					0.03
79.667	0.00	0.06	0.052	0					0.03
79.750	0.00	0.06	0.051	0					0.03
79.833	0.00	0.06	0.051	0					0.03
79.917	0.00	0.06	0.050	0					0.03
80.000	0.00	0.06	0.050	0					0.03
80.083	0.00	0.06	0.050	0					0.03
80.167	0.00	0.06	0.049	0					0.03
80.250	0.00	0.06	0.049	0					0.03
80.333	0.00	0.05	0.048	0					0.03
80.417	0.00	0.05	0.048	0					0.03
80.500	0.00	0.05	0.048	0					0.03
80.583	0.00	0.05	0.047	0					0.03
80.667	0.00	0.05	0.047	0					0.03
80.750	0.00	0.05	0.047	0					0.03
80.833	0.00	0.05	0.046	0					0.03
80.917	0.00	0.05	0.046	0					0.03
81.000	0.00	0.05	0.046	0					0.03
81.083	0.00	0.05	0.045	0					0.03
81.167	0.00	0.05	0.045	0					0.03
81.250	0.00	0.05	0.044	0					0.03
81.333	0.00	0.05	0.044	0					0.03
81.417	0.00	0.05	0.044	0					0.03
81.500	0.00	0.05	0.043	0					0.03
81.583	0.00	0.05	0.043	0					0.03
81.667	0.00	0.05	0.043	0					0.03
81.750	0.00	0.05	0.042	0					0.03
81.833	0.00	0.05	0.042	0					0.02
81.917	0.00	0.05	0.042	0					0.02
82.000	0.00	0.05	0.041	0					0.02
82.083	0.00	0.05	0.041	0					0.02
82.167	0.00	0.05	0.041	0					0.02
82.250	0.00	0.05	0.041	0					0.02
82.333	0.00	0.05	0.040	0					0.02
82.417	0.00	0.05	0.040	0					0.02
82.500	0.00	0.04	0.040	0					0.02
82.583	0.00	0.04	0.039	0					0.02
82.667	0.00	0.04	0.039	0					0.02
82.750	0.00	0.04	0.039	0					0.02
82.833	0.00	0.04	0.038	0					0.02
82.917	0.00	0.04	0.038	0					0.02
83.000	0.00	0.04	0.038	0					0.02
83.083	0.00	0.04	0.037	0					0.02
83.167	0.00	0.04	0.037	0					0.02
83.250	0.00	0.04	0.037	0					0.02
83.333	0.00	0.04	0.037	0					0.02

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## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.04	0.036	0					0.02
83.500	0.00	0.04	0.036	0					0.02
83.583	0.00	0.04	0.036	0					0.02
83.667	0.00	0.04	0.036	0					0.02
83.750	0.00	0.04	0.035	0					0.02
83.833	0.00	0.04	0.035	0					0.02
83.917	0.00	0.04	0.035	0					0.02
84.000	0.00	0.04	0.034	0					0.02
84.083	0.00	0.04	0.034	0					0.02
84.167	0.00	0.04	0.034	0					0.02
84.250	0.00	0.04	0.034	0					0.02
84.333	0.00	0.04	0.033	0					0.02
84.417	0.00	0.04	0.033	0					0.02
84.500	0.00	0.04	0.033	0					0.02
84.583	0.00	0.04	0.033	0					0.02
84.667	0.00	0.04	0.032	0					0.02
84.750	0.00	0.04	0.032	0					0.02
84.833	0.00	0.04	0.032	0					0.02
84.917	0.00	0.04	0.032	0					0.02
85.000	0.00	0.04	0.031	0					0.02
85.083	0.00	0.04	0.031	0					0.02
85.167	0.00	0.03	0.031	0					0.02
85.250	0.00	0.03	0.031	0					0.02
85.333	0.00	0.03	0.030	0					0.02
85.417	0.00	0.03	0.030	0					0.02
85.500	0.00	0.03	0.030	0					0.02
85.583	0.00	0.03	0.030	0					0.02
85.667	0.00	0.03	0.029	0					0.02
85.750	0.00	0.03	0.029	0					0.02
85.833	0.00	0.03	0.029	0					0.02
85.917	0.00	0.03	0.029	0					0.02
86.000	0.00	0.03	0.029	0					0.02
86.083	0.00	0.03	0.028	0					0.02
86.167	0.00	0.03	0.028	0					0.02
86.250	0.00	0.03	0.028	0					0.02
86.333	0.00	0.03	0.028	0					0.02
86.417	0.00	0.03	0.027	0					0.02
86.500	0.00	0.03	0.027	0					0.02
86.583	0.00	0.03	0.027	0					0.02
86.667	0.00	0.03	0.027	0					0.02
86.750	0.00	0.03	0.027	0					0.02
86.833	0.00	0.03	0.026	0					0.02
86.917	0.00	0.03	0.026	0					0.02
87.000	0.00	0.03	0.026	0					0.02
87.083	0.00	0.03	0.026	0					0.02
87.167	0.00	0.03	0.026	0					0.02
87.250	0.00	0.03	0.025	0					0.02
87.333	0.00	0.03	0.025	0					0.01
87.417	0.00	0.03	0.025	0					0.01
87.500	0.00	0.03	0.025	0					0.01
87.583	0.00	0.03	0.025	0					0.01
87.667	0.00	0.03	0.024	0					0.01
87.750	0.00	0.03	0.024	0					0.01
87.833	0.00	0.03	0.024	0					0.01
87.917	0.00	0.03	0.024	0					0.01
88.000	0.00	0.03	0.024	0					0.01
88.083	0.00	0.03	0.024	0					0.01
88.167	0.00	0.03	0.023	0					0.01
88.250	0.00	0.03	0.023	0					0.01
88.333	0.00	0.03	0.023	0					0.01
88.417	0.00	0.03	0.023	0					0.01
88.500	0.00	0.03	0.023	0					0.01
88.583	0.00	0.03	0.022	0					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.03	0.022	o					0.01
88.750	0.00	0.02	0.022	o					0.01
88.833	0.00	0.02	0.022	o					0.01
88.917	0.00	0.02	0.022	o					0.01
89.000	0.00	0.02	0.022	o					0.01
89.083	0.00	0.02	0.021	o					0.01
89.167	0.00	0.02	0.021	o					0.01
89.250	0.00	0.02	0.021	o					0.01
89.333	0.00	0.02	0.021	o					0.01
89.417	0.00	0.02	0.021	o					0.01
89.500	0.00	0.02	0.021	o					0.01
89.583	0.00	0.02	0.020	o					0.01
89.667	0.00	0.02	0.020	o					0.01
89.750	0.00	0.02	0.020	o					0.01
89.833	0.00	0.02	0.020	o					0.01
89.917	0.00	0.02	0.020	o					0.01
90.000	0.00	0.02	0.020	o					0.01
90.083	0.00	0.02	0.020	o					0.01
90.167	0.00	0.02	0.019	o					0.01
90.250	0.00	0.02	0.019	o					0.01
90.333	0.00	0.02	0.019	o					0.01
90.417	0.00	0.02	0.019	o					0.01
90.500	0.00	0.02	0.019	o					0.01
90.583	0.00	0.02	0.019	o					0.01
90.667	0.00	0.02	0.018	o					0.01
90.750	0.00	0.02	0.018	o					0.01
90.833	0.00	0.02	0.018	o					0.01
90.917	0.00	0.02	0.018	o					0.01
91.000	0.00	0.02	0.018	o					0.01
91.083	0.00	0.02	0.018	o					0.01
91.167	0.00	0.02	0.018	o					0.01
91.250	0.00	0.02	0.018	o					0.01
91.333	0.00	0.02	0.017	o					0.01
91.417	0.00	0.02	0.017	o					0.01
91.500	0.00	0.02	0.017	o					0.01
91.583	0.00	0.02	0.017	o					0.01
91.667	0.00	0.02	0.017	o					0.01
91.750	0.00	0.02	0.017	o					0.01
91.833	0.00	0.02	0.017	o					0.01
91.917	0.00	0.02	0.016	o					0.01
92.000	0.00	0.02	0.016	o					0.01
92.083	0.00	0.02	0.016	o					0.01
92.167	0.00	0.02	0.016	o					0.01
92.250	0.00	0.02	0.016	o					0.01
92.333	0.00	0.02	0.016	o					0.01
92.417	0.00	0.02	0.016	o					0.01
92.500	0.00	0.02	0.016	o					0.01
92.583	0.00	0.02	0.015	o					0.01
92.667	0.00	0.02	0.015	o					0.01
92.750	0.00	0.02	0.015	o					0.01
92.833	0.00	0.02	0.015	o					0.01
92.917	0.00	0.02	0.015	o					0.01
93.000	0.00	0.02	0.015	o					0.01
93.083	0.00	0.02	0.015	o					0.01
93.167	0.00	0.02	0.015	o					0.01
93.250	0.00	0.02	0.015	o					0.01
93.333	0.00	0.02	0.014	o					0.01
93.417	0.00	0.02	0.014	o					0.01
93.500	0.00	0.02	0.014	o					0.01
93.583	0.00	0.02	0.014	o					0.01
93.667	0.00	0.02	0.014	o					0.01
93.750	0.00	0.02	0.014	o					0.01
93.833	0.00	0.02	0.014	o					0.01



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.02	0.014	o					0.01
94.000	0.00	0.02	0.014	o					0.01
94.083	0.00	0.02	0.013	o					0.01
94.167	0.00	0.02	0.013	o					0.01
94.250	0.00	0.01	0.013	o					0.01
94.333	0.00	0.01	0.013	o					0.01
94.417	0.00	0.01	0.013	o					0.01
94.500	0.00	0.01	0.013	o					0.01
94.583	0.00	0.01	0.013	o					0.01
94.667	0.00	0.01	0.013	o					0.01
94.750	0.00	0.01	0.013	o					0.01
94.833	0.00	0.01	0.013	o					0.01
94.917	0.00	0.01	0.012	o					0.01
95.000	0.00	0.01	0.012	o					0.01
95.083	0.00	0.01	0.012	o					0.01
95.167	0.00	0.01	0.012	o					0.01
95.250	0.00	0.01	0.012	o					0.01
95.333	0.00	0.01	0.012	o					0.01
95.417	0.00	0.01	0.012	o					0.01
95.500	0.00	0.01	0.012	o					0.01
95.583	0.00	0.01	0.012	o					0.01
95.667	0.00	0.01	0.012	o					0.01
95.750	0.00	0.01	0.012	o					0.01
95.833	0.00	0.01	0.011	o					0.01
95.917	0.00	0.01	0.011	o					0.01
96.000	0.00	0.01	0.011	o					0.01
96.083	0.00	0.01	0.011	o					0.01
96.167	0.00	0.01	0.011	o					0.01
96.250	0.00	0.01	0.011	o					0.01
96.333	0.00	0.01	0.011	o					0.01
96.417	0.00	0.01	0.011	o					0.01
96.500	0.00	0.01	0.011	o					0.01
96.583	0.00	0.01	0.011	o					0.01
96.667	0.00	0.01	0.011	o					0.01
96.750	0.00	0.01	0.010	o					0.01
96.833	0.00	0.01	0.010	o					0.01
96.917	0.00	0.01	0.010	o					0.01
97.000	0.00	0.01	0.010	o					0.01
97.083	0.00	0.01	0.010	o					0.01
97.167	0.00	0.01	0.010	o					0.01
97.250	0.00	0.01	0.010	o					0.01
97.333	0.00	0.01	0.010	o					0.01
97.417	0.00	0.01	0.010	o					0.01
97.500	0.00	0.01	0.010	o					0.01
97.583	0.00	0.01	0.010	o					0.01
97.667	0.00	0.01	0.010	o					0.01
97.750	0.00	0.01	0.010	o					0.01
97.833	0.00	0.01	0.009	o					0.01
97.917	0.00	0.01	0.009	o					0.01
98.000	0.00	0.01	0.009	o					0.01
98.083	0.00	0.01	0.009	o					0.01
98.167	0.00	0.01	0.009	o					0.01
98.250	0.00	0.01	0.009	o					0.01
98.333	0.00	0.01	0.009	o					0.01
98.417	0.00	0.01	0.009	o					0.01
98.500	0.00	0.01	0.009	o					0.01
98.583	0.00	0.01	0.009	o					0.01
98.667	0.00	0.01	0.009	o					0.01
98.750	0.00	0.01	0.009	o					0.01
98.833	0.00	0.01	0.009	o					0.01
98.917	0.00	0.01	0.009	o					0.01
99.000	0.00	0.01	0.009	o					0.01
99.083	0.00	0.01	0.008	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.01	0.008	o					0.00
99.250	0.00	0.01	0.008	o					0.00
99.333	0.00	0.01	0.008	o					0.00
99.417	0.00	0.01	0.008	o					0.00
99.500	0.00	0.01	0.008	o					0.00
99.583	0.00	0.01	0.008	o					0.00
99.667	0.00	0.01	0.008	o					0.00
99.750	0.00	0.01	0.008	o					0.00
99.833	0.00	0.01	0.008	o					0.00
99.917	0.00	0.01	0.008	o					0.00
100.000	0.00	0.01	0.008	o					0.00
100.083	0.00	0.01	0.008	o					0.00
100.167	0.00	0.01	0.008	o					0.00
100.250	0.00	0.01	0.008	o					0.00
100.333	0.00	0.01	0.008	o					0.00
100.417	0.00	0.01	0.007	o					0.00
100.500	0.00	0.01	0.007	o					0.00
100.583	0.00	0.01	0.007	o					0.00
100.667	0.00	0.01	0.007	o					0.00
100.750	0.00	0.01	0.007	o					0.00
100.833	0.00	0.01	0.007	o					0.00
100.917	0.00	0.01	0.007	o					0.00
101.000	0.00	0.01	0.007	o					0.00
101.083	0.00	0.01	0.007	o					0.00
101.167	0.00	0.01	0.007	o					0.00
101.250	0.00	0.01	0.007	o					0.00
101.333	0.00	0.01	0.007	o					0.00
101.417	0.00	0.01	0.007	o					0.00
101.500	0.00	0.01	0.007	o					0.00
101.583	0.00	0.01	0.007	o					0.00
101.667	0.00	0.01	0.007	o					0.00
101.750	0.00	0.01	0.007	o					0.00
101.833	0.00	0.01	0.007	o					0.00
101.917	0.00	0.01	0.006	o					0.00
102.000	0.00	0.01	0.006	o					0.00
102.083	0.00	0.01	0.006	o					0.00
102.167	0.00	0.01	0.006	o					0.00
102.250	0.00	0.01	0.006	o					0.00
102.333	0.00	0.01	0.006	o					0.00
102.417	0.00	0.01	0.006	o					0.00
102.500	0.00	0.01	0.006	o					0.00
102.583	0.00	0.01	0.006	o					0.00
102.667	0.00	0.01	0.006	o					0.00
102.750	0.00	0.01	0.006	o					0.00
102.833	0.00	0.01	0.006	o					0.00
102.917	0.00	0.01	0.006	o					0.00
103.000	0.00	0.01	0.006	o					0.00
103.083	0.00	0.01	0.006	o					0.00
103.167	0.00	0.01	0.006	o					0.00
103.250	0.00	0.01	0.006	o					0.00
103.333	0.00	0.01	0.006	o					0.00
103.417	0.00	0.01	0.006	o					0.00
103.500	0.00	0.01	0.006	o					0.00
103.583	0.00	0.01	0.006	o					0.00
103.667	0.00	0.01	0.006	o					0.00
103.750	0.00	0.01	0.005	o					0.00
103.833	0.00	0.01	0.005	o					0.00
103.917	0.00	0.01	0.005	o					0.00
104.000	0.00	0.01	0.005	o					0.00
104.083	0.00	0.01	0.005	o					0.00
104.167	0.00	0.01	0.005	o					0.00
104.250	0.00	0.01	0.005	o					0.00
104.333	0.00	0.01	0.005	o					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.01	0.005	o					0.00
104.500	0.00	0.01	0.005	o					0.00
104.583	0.00	0.01	0.005	o					0.00
104.667	0.00	0.01	0.005	o					0.00
104.750	0.00	0.01	0.005	o					0.00
104.833	0.00	0.01	0.005	o					0.00
104.917	0.00	0.01	0.005	o					0.00
105.000	0.00	0.01	0.005	o					0.00
105.083	0.00	0.01	0.005	o					0.00
105.167	0.00	0.01	0.005	o					0.00
105.250	0.00	0.01	0.005	o					0.00
105.333	0.00	0.01	0.005	o					0.00
105.417	0.00	0.01	0.005	o					0.00
105.500	0.00	0.01	0.005	o					0.00
105.583	0.00	0.01	0.005	o					0.00
105.667	0.00	0.01	0.005	o					0.00
105.750	0.00	0.01	0.005	o					0.00
105.833	0.00	0.01	0.004	o					0.00
105.917	0.00	0.01	0.004	o					0.00
106.000	0.00	0.00	0.004	o					0.00
106.083	0.00	0.00	0.004	o					0.00
106.167	0.00	0.00	0.004	o					0.00
106.250	0.00	0.00	0.004	o					0.00
106.333	0.00	0.00	0.004	o					0.00
106.417	0.00	0.00	0.004	o					0.00
106.500	0.00	0.00	0.004	o					0.00
106.583	0.00	0.00	0.004	o					0.00
106.667	0.00	0.00	0.004	o					0.00
106.750	0.00	0.00	0.004	o					0.00
106.833	0.00	0.00	0.004	o					0.00
106.917	0.00	0.00	0.004	o					0.00
107.000	0.00	0.00	0.004	o					0.00
107.083	0.00	0.00	0.004	o					0.00
107.167	0.00	0.00	0.004	o					0.00
107.250	0.00	0.00	0.004	o					0.00
107.333	0.00	0.00	0.004	o					0.00
107.417	0.00	0.00	0.004	o					0.00
107.500	0.00	0.00	0.004	o					0.00
107.583	0.00	0.00	0.004	o					0.00
107.667	0.00	0.00	0.004	o					0.00
107.750	0.00	0.00	0.004	o					0.00
107.833	0.00	0.00	0.004	o					0.00
107.917	0.00	0.00	0.004	o					0.00
108.000	0.00	0.00	0.004	o					0.00
108.083	0.00	0.00	0.004	o					0.00
108.167	0.00	0.00	0.004	o					0.00
108.250	0.00	0.00	0.004	o					0.00
108.333	0.00	0.00	0.004	o					0.00
108.417	0.00	0.00	0.004	o					0.00
108.500	0.00	0.00	0.004	o					0.00
108.583	0.00	0.00	0.003	o					0.00
108.667	0.00	0.00	0.003	o					0.00
108.750	0.00	0.00	0.003	o					0.00
108.833	0.00	0.00	0.003	o					0.00
108.917	0.00	0.00	0.003	o					0.00
109.000	0.00	0.00	0.003	o					0.00
109.083	0.00	0.00	0.003	o					0.00
109.167	0.00	0.00	0.003	o					0.00
109.250	0.00	0.00	0.003	o					0.00
109.333	0.00	0.00	0.003	o					0.00
109.417	0.00	0.00	0.003	o					0.00
109.500	0.00	0.00	0.003	o					0.00
109.583	0.00	0.00	0.003	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.00	0.003	o					0.00
109.750	0.00	0.00	0.003	o					0.00
109.833	0.00	0.00	0.003	o					0.00
109.917	0.00	0.00	0.003	o					0.00
110.000	0.00	0.00	0.003	o					0.00
110.083	0.00	0.00	0.003	o					0.00
110.167	0.00	0.00	0.003	o					0.00
110.250	0.00	0.00	0.003	o					0.00
110.333	0.00	0.00	0.003	o					0.00
110.417	0.00	0.00	0.003	o					0.00
110.500	0.00	0.00	0.003	o					0.00
110.583	0.00	0.00	0.003	o					0.00
110.667	0.00	0.00	0.003	o					0.00
110.750	0.00	0.00	0.003	o					0.00
110.833	0.00	0.00	0.003	o					0.00
110.917	0.00	0.00	0.003	o					0.00
111.000	0.00	0.00	0.003	o					0.00
111.083	0.00	0.00	0.003	o					0.00
111.167	0.00	0.00	0.003	o					0.00
111.250	0.00	0.00	0.003	o					0.00
111.333	0.00	0.00	0.003	o					0.00
111.417	0.00	0.00	0.003	o					0.00
111.500	0.00	0.00	0.003	o					0.00
111.583	0.00	0.00	0.003	o					0.00
111.667	0.00	0.00	0.003	o					0.00
111.750	0.00	0.00	0.003	o					0.00
111.833	0.00	0.00	0.003	o					0.00
111.917	0.00	0.00	0.003	o					0.00
112.000	0.00	0.00	0.003	o					0.00
112.083	0.00	0.00	0.003	o					0.00
112.167	0.00	0.00	0.002	o					0.00
112.250	0.00	0.00	0.002	o					0.00
112.333	0.00	0.00	0.002	o					0.00
112.417	0.00	0.00	0.002	o					0.00
112.500	0.00	0.00	0.002	o					0.00
112.583	0.00	0.00	0.002	o					0.00
112.667	0.00	0.00	0.002	o					0.00
112.750	0.00	0.00	0.002	o					0.00
112.833	0.00	0.00	0.002	o					0.00
112.917	0.00	0.00	0.002	o					0.00
113.000	0.00	0.00	0.002	o					0.00
113.083	0.00	0.00	0.002	o					0.00
113.167	0.00	0.00	0.002	o					0.00
113.250	0.00	0.00	0.002	o					0.00
113.333	0.00	0.00	0.002	o					0.00
113.417	0.00	0.00	0.002	o					0.00
113.500	0.00	0.00	0.002	o					0.00
113.583	0.00	0.00	0.002	o					0.00
113.667	0.00	0.00	0.002	o					0.00
113.750	0.00	0.00	0.002	o					0.00
113.833	0.00	0.00	0.002	o					0.00
113.917	0.00	0.00	0.002	o					0.00
114.000	0.00	0.00	0.002	o					0.00
114.083	0.00	0.00	0.002	o					0.00
114.167	0.00	0.00	0.002	o					0.00
114.250	0.00	0.00	0.002	o					0.00
114.333	0.00	0.00	0.002	o					0.00
114.417	0.00	0.00	0.002	o					0.00
114.500	0.00	0.00	0.002	o					0.00
114.583	0.00	0.00	0.002	o					0.00
114.667	0.00	0.00	0.002	o					0.00
114.750	0.00	0.00	0.002	o					0.00
114.833	0.00	0.00	0.002	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

114.917	0.00	0.00	0.002	o					0.00
115.000	0.00	0.00	0.002	o					0.00
115.083	0.00	0.00	0.002	o					0.00
115.167	0.00	0.00	0.002	o					0.00
115.250	0.00	0.00	0.002	o					0.00
115.333	0.00	0.00	0.002	o					0.00
115.417	0.00	0.00	0.002	o					0.00
115.500	0.00	0.00	0.002	o					0.00
115.583	0.00	0.00	0.002	o					0.00
115.667	0.00	0.00	0.002	o					0.00
115.750	0.00	0.00	0.002	o					0.00
115.833	0.00	0.00	0.002	o					0.00
115.917	0.00	0.00	0.002	o					0.00
116.000	0.00	0.00	0.002	o					0.00
116.083	0.00	0.00	0.002	o					0.00
116.167	0.00	0.00	0.002	o					0.00
116.250	0.00	0.00	0.002	o					0.00
116.333	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 1396
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 13.532 (CFS)
      Total volume = 11.476 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 100-year 3-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kxprh3100.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 42  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 176.391 (CFS)  
 Total volume = 15.864 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)          0.000    0.000    0.000    0.000    0.000  
 Vol (Ac.Ft)         0.000    0.000    0.000    0.000    0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 42  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	44.1	88.20	132.29	176.39	Depth (Ft.)
0.083	6.32	0.02	0.022	O I					0.01
0.167	18.92	0.12	0.108	O I					0.06
0.250	21.15	0.28	0.245	O I					0.14
0.333	22.75	0.44	0.393	O I					0.23
0.417	27.97	0.64	0.564	O I					0.33
0.500	31.46	0.86	0.764	O I					0.45
0.583	34.22	1.11	0.983	O I					0.58
0.667	33.63	1.36	1.208	O I					0.71
0.750	36.96	1.63	1.441	O I					0.85
0.833	36.07	1.90	1.680	O I					0.99
0.917	33.29	1.95	1.906	O I					1.10
1.000	35.00	2.00	2.128	O I					1.21
1.083	39.94	2.05	2.372	O I					1.32
1.167	45.69	2.11	2.652	O I					1.45
1.250	47.34	2.17	2.958	O I					1.60
1.333	46.82	2.23	3.267	O I					1.74
1.417	48.58	2.29	3.580	O I					1.89
1.500	56.36	2.36	3.925	O I					2.04
1.583	57.66	2.41	4.302	O I					2.18
1.667	56.91	2.46	4.679	O I					2.32
1.750	64.00	2.51	5.079	O I					2.47
1.833	71.18	2.57	5.527	O I					2.63
1.917	70.01	2.64	5.995	O I					2.80
2.000	68.53	2.70	6.453	O I					2.97
2.083	69.96	2.75	6.912	O I					3.12
2.167	78.45	2.80	7.404	O I					3.27
2.250	97.81	2.86	7.991	O I					3.45
2.333	102.31	2.92	8.660	O I					3.66
2.417	108.86	2.99	9.367	O I					3.88
2.500	150.63	7.18	10.226	O I			I		4.14
2.583	173.05	16.05	11.260	O I				I	4.43
2.667	176.39	25.15	12.322	O I				I	4.73
2.750	129.27	32.47	13.176	O I			I		4.97
2.833	73.88	39.80	13.626	O I		I			5.12
2.917	56.53	42.83	13.791	O I		I			5.17
3.000	41.15	43.55	13.830	O I					5.19
3.083	20.00	42.00	13.746	O I					5.16
3.167	8.22	38.67	13.565	O I					5.10
3.250	3.41	34.75	13.353	O I					5.03
3.333	1.73	32.16	13.140	O I					4.96
3.417	0.82	30.39	12.933	O I					4.90
3.500	0.15	28.68	12.733	O I					4.85
3.583	0.00	27.04	12.542	O I					4.79
3.667	0.00	25.49	12.361	O I					4.74
3.750	0.00	24.02	12.190	O I					4.69
3.833	0.00	22.65	12.030	O I					4.65
3.917	0.00	21.35	11.878	O I					4.60
4.000	0.00	20.12	11.735	O I					4.56
4.083	0.00	18.97	11.601	O I					4.53
4.167	0.00	17.88	11.474	O I					4.49
4.250	0.00	16.86	11.354	O I					4.46
4.333	0.00	15.89	11.242	O I					4.42
4.417	0.00	14.98	11.135	O I					4.39
4.500	0.00	14.12	11.035	O I					4.37
4.583	0.00	13.31	10.941	O I					4.34

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.667	0.00	12.55	10.852	I O					4.31
4.750	0.00	11.83	10.768	I O					4.29
4.833	0.00	11.15	10.688	I O					4.27
4.917	0.00	10.51	10.614	IO					4.25
5.000	0.00	9.91	10.544	IO					4.23
5.083	0.00	9.34	10.477	IO					4.21
5.167	0.00	8.80	10.415	IO					4.19
5.250	0.00	8.30	10.356	IO					4.17
5.333	0.00	7.82	10.300	IO					4.16
5.417	0.00	7.38	10.248	IO					4.14
5.500	0.00	6.95	10.199	IO					4.13
5.583	0.00	6.55	10.152	IO					4.12
5.667	0.00	6.18	10.108	IO					4.10
5.750	0.00	5.82	10.067	IO					4.09
5.833	0.00	5.49	10.028	O					4.08
5.917	0.00	5.18	9.991	O					4.07
6.000	0.00	4.88	9.957	O					4.06
6.083	0.00	4.60	9.924	O					4.05
6.167	0.00	4.34	9.893	O					4.04
6.250	0.00	4.09	9.864	O					4.03
6.333	0.00	3.85	9.837	O					4.03
6.417	0.00	3.63	9.811	O					4.02
6.500	0.00	3.42	9.787	O					4.01
6.583	0.00	3.23	9.764	O					4.01
6.667	0.00	3.04	9.742	O					4.00
6.750	0.00	3.03	9.721	O					3.99
6.833	0.00	3.03	9.701	O					3.99
6.917	0.00	3.02	9.680	O					3.98
7.000	0.00	3.02	9.659	O					3.97
7.083	0.00	3.02	9.638	O					3.97
7.167	0.00	3.02	9.617	O					3.96
7.250	0.00	3.02	9.597	O					3.95
7.333	0.00	3.01	9.576	O					3.95
7.417	0.00	3.01	9.555	O					3.94
7.500	0.00	3.01	9.534	O					3.94
7.583	0.00	3.01	9.514	O					3.93
7.667	0.00	3.01	9.493	O					3.92
7.750	0.00	3.00	9.472	O					3.92
7.833	0.00	3.00	9.452	O					3.91
7.917	0.00	3.00	9.431	O					3.90
8.000	0.00	3.00	9.410	O					3.90
8.083	0.00	2.99	9.390	O					3.89
8.167	0.00	2.99	9.369	O					3.88
8.250	0.00	2.99	9.348	O					3.88
8.333	0.00	2.99	9.328	O					3.87
8.417	0.00	2.99	9.307	O					3.86
8.500	0.00	2.98	9.287	O					3.86
8.583	0.00	2.98	9.266	O					3.85
8.667	0.00	2.98	9.246	O					3.85
8.750	0.00	2.98	9.225	O					3.84
8.833	0.00	2.98	9.205	O					3.83
8.917	0.00	2.97	9.184	O					3.83
9.000	0.00	2.97	9.164	O					3.82
9.083	0.00	2.97	9.143	O					3.81
9.167	0.00	2.97	9.123	O					3.81
9.250	0.00	2.97	9.102	O					3.80
9.333	0.00	2.96	9.082	O					3.79
9.417	0.00	2.96	9.061	O					3.79
9.500	0.00	2.96	9.041	O					3.78
9.583	0.00	2.96	9.021	O					3.78
9.667	0.00	2.96	9.000	O					3.77
9.750	0.00	2.95	8.980	O					3.76
9.833	0.00	2.95	8.960	O					3.76



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	0.00	2.95	8.939	0					3.75
10.000	0.00	2.95	8.919	0					3.74
10.083	0.00	2.95	8.899	0					3.74
10.167	0.00	2.94	8.878	0					3.73
10.250	0.00	2.94	8.858	0					3.72
10.333	0.00	2.94	8.838	0					3.72
10.417	0.00	2.94	8.818	0					3.71
10.500	0.00	2.94	8.797	0					3.71
10.583	0.00	2.93	8.777	0					3.70
10.667	0.00	2.93	8.757	0					3.69
10.750	0.00	2.93	8.737	0					3.69
10.833	0.00	2.93	8.717	0					3.68
10.917	0.00	2.93	8.696	0					3.67
11.000	0.00	2.92	8.676	0					3.67
11.083	0.00	2.92	8.656	0					3.66
11.167	0.00	2.92	8.636	0					3.66
11.250	0.00	2.92	8.616	0					3.65
11.333	0.00	2.92	8.596	0					3.64
11.417	0.00	2.91	8.576	0					3.64
11.500	0.00	2.91	8.556	0					3.63
11.583	0.00	2.91	8.536	0					3.62
11.667	0.00	2.91	8.516	0					3.62
11.750	0.00	2.91	8.496	0					3.61
11.833	0.00	2.90	8.476	0					3.61
11.917	0.00	2.90	8.456	0					3.60
12.000	0.00	2.90	8.436	0					3.59
12.083	0.00	2.90	8.416	0					3.59
12.167	0.00	2.90	8.396	0					3.58
12.250	0.00	2.89	8.376	0					3.57
12.333	0.00	2.89	8.356	0					3.57
12.417	0.00	2.89	8.336	0					3.56
12.500	0.00	2.89	8.316	0					3.56
12.583	0.00	2.89	8.296	0					3.55
12.667	0.00	2.88	8.276	0					3.54
12.750	0.00	2.88	8.257	0					3.54
12.833	0.00	2.88	8.237	0					3.53
12.917	0.00	2.88	8.217	0					3.52
13.000	0.00	2.88	8.197	0					3.52
13.083	0.00	2.87	8.177	0					3.51
13.167	0.00	2.87	8.157	0					3.51
13.250	0.00	2.87	8.138	0					3.50
13.333	0.00	2.87	8.118	0					3.49
13.417	0.00	2.87	8.098	0					3.49
13.500	0.00	2.86	8.078	0					3.48
13.583	0.00	2.86	8.059	0					3.48
13.667	0.00	2.86	8.039	0					3.47
13.750	0.00	2.86	8.019	0					3.46
13.833	0.00	2.86	8.000	0					3.46
13.917	0.00	2.85	7.980	0					3.45
14.000	0.00	2.85	7.960	0					3.44
14.083	0.00	2.85	7.941	0					3.44
14.167	0.00	2.85	7.921	0					3.43
14.250	0.00	2.85	7.901	0					3.43
14.333	0.00	2.84	7.882	0					3.42
14.417	0.00	2.84	7.862	0					3.41
14.500	0.00	2.84	7.843	0					3.41
14.583	0.00	2.84	7.823	0					3.40
14.667	0.00	2.84	7.804	0					3.40
14.750	0.00	2.83	7.784	0					3.39
14.833	0.00	2.83	7.765	0					3.38
14.917	0.00	2.83	7.745	0					3.38
15.000	0.00	2.83	7.726	0					3.37
15.083	0.00	2.83	7.706	0					3.37

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	2.83	7.687	0					3.36
15.250	0.00	2.82	7.667	0					3.35
15.333	0.00	2.82	7.648	0					3.35
15.417	0.00	2.82	7.628	0					3.34
15.500	0.00	2.82	7.609	0					3.34
15.583	0.00	2.82	7.590	0					3.33
15.667	0.00	2.81	7.570	0					3.32
15.750	0.00	2.81	7.551	0					3.32
15.833	0.00	2.81	7.531	0					3.31
15.917	0.00	2.81	7.512	0					3.30
16.000	0.00	2.81	7.493	0					3.30
16.083	0.00	2.80	7.473	0					3.29
16.167	0.00	2.80	7.454	0					3.29
16.250	0.00	2.80	7.435	0					3.28
16.333	0.00	2.80	7.416	0					3.27
16.417	0.00	2.80	7.396	0					3.27
16.500	0.00	2.79	7.377	0					3.26
16.583	0.00	2.79	7.358	0					3.26
16.667	0.00	2.79	7.339	0					3.25
16.750	0.00	2.79	7.319	0					3.24
16.833	0.00	2.79	7.300	0					3.24
16.917	0.00	2.78	7.281	0					3.23
17.000	0.00	2.78	7.262	0					3.23
17.083	0.00	2.78	7.243	0					3.22
17.167	0.00	2.78	7.224	0					3.22
17.250	0.00	2.78	7.204	0					3.21
17.333	0.00	2.77	7.185	0					3.20
17.417	0.00	2.77	7.166	0					3.20
17.500	0.00	2.77	7.147	0					3.19
17.583	0.00	2.77	7.128	0					3.19
17.667	0.00	2.77	7.109	0					3.18
17.750	0.00	2.77	7.090	0					3.17
17.833	0.00	2.76	7.071	0					3.17
17.917	0.00	2.76	7.052	0					3.16
18.000	0.00	2.76	7.033	0					3.16
18.083	0.00	2.76	7.014	0					3.15
18.167	0.00	2.76	6.995	0					3.14
18.250	0.00	2.75	6.976	0					3.14
18.333	0.00	2.75	6.957	0					3.13
18.417	0.00	2.75	6.938	0					3.13
18.500	0.00	2.75	6.919	0					3.12
18.583	0.00	2.75	6.900	0					3.11
18.667	0.00	2.74	6.881	0					3.11
18.750	0.00	2.74	6.862	0					3.10
18.833	0.00	2.74	6.843	0					3.10
18.917	0.00	2.74	6.825	0					3.09
19.000	0.00	2.74	6.806	0					3.08
19.083	0.00	2.74	6.787	0					3.08
19.167	0.00	2.73	6.768	0					3.07
19.250	0.00	2.73	6.749	0					3.07
19.333	0.00	2.73	6.730	0					3.06
19.417	0.00	2.73	6.712	0					3.06
19.500	0.00	2.73	6.693	0					3.05
19.583	0.00	2.72	6.674	0					3.04
19.667	0.00	2.72	6.655	0					3.04
19.750	0.00	2.72	6.637	0					3.03
19.833	0.00	2.72	6.618	0					3.03
19.917	0.00	2.72	6.599	0					3.02
20.000	0.00	2.71	6.580	0					3.01
20.083	0.00	2.71	6.562	0					3.01
20.167	0.00	2.71	6.543	0					3.00
20.250	0.00	2.71	6.524	0					3.00
20.333	0.00	2.71	6.506	0					2.99

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.70	6.487	0					2.98
20.500	0.00	2.70	6.468	0					2.98
20.583	0.00	2.70	6.450	0					2.97
20.667	0.00	2.70	6.431	0					2.96
20.750	0.00	2.69	6.413	0					2.96
20.833	0.00	2.69	6.394	0					2.95
20.917	0.00	2.69	6.376	0					2.94
21.000	0.00	2.69	6.357	0					2.94
21.083	0.00	2.68	6.339	0					2.93
21.167	0.00	2.68	6.320	0					2.92
21.250	0.00	2.68	6.302	0					2.91
21.333	0.00	2.68	6.283	0					2.91
21.417	0.00	2.67	6.265	0					2.90
21.500	0.00	2.67	6.246	0					2.89
21.583	0.00	2.67	6.228	0					2.89
21.667	0.00	2.67	6.210	0					2.88
21.750	0.00	2.66	6.191	0					2.87
21.833	0.00	2.66	6.173	0					2.87
21.917	0.00	2.66	6.155	0					2.86
22.000	0.00	2.66	6.136	0					2.85
22.083	0.00	2.65	6.118	0					2.85
22.167	0.00	2.65	6.100	0					2.84
22.250	0.00	2.65	6.082	0					2.83
22.333	0.00	2.65	6.063	0					2.83
22.417	0.00	2.64	6.045	0					2.82
22.500	0.00	2.64	6.027	0					2.81
22.583	0.00	2.64	6.009	0					2.81
22.667	0.00	2.64	5.991	0					2.80
22.750	0.00	2.63	5.972	0					2.79
22.833	0.00	2.63	5.954	0					2.79
22.917	0.00	2.63	5.936	0					2.78
23.000	0.00	2.63	5.918	0					2.77
23.083	0.00	2.62	5.900	0					2.77
23.167	0.00	2.62	5.882	0					2.76
23.250	0.00	2.62	5.864	0					2.75
23.333	0.00	2.62	5.846	0					2.75
23.417	0.00	2.61	5.828	0					2.74
23.500	0.00	2.61	5.810	0					2.73
23.583	0.00	2.61	5.792	0					2.73
23.667	0.00	2.61	5.774	0					2.72
23.750	0.00	2.60	5.756	0					2.71
23.833	0.00	2.60	5.738	0					2.71
23.917	0.00	2.60	5.720	0					2.70
24.000	0.00	2.60	5.702	0					2.70
24.083	0.00	2.59	5.684	0					2.69
24.167	0.00	2.59	5.667	0					2.68
24.250	0.00	2.59	5.649	0					2.68
24.333	0.00	2.59	5.631	0					2.67
24.417	0.00	2.59	5.613	0					2.66
24.500	0.00	2.58	5.595	0					2.66
24.583	0.00	2.58	5.577	0					2.65
24.667	0.00	2.58	5.560	0					2.64
24.750	0.00	2.58	5.542	0					2.64
24.833	0.00	2.57	5.524	0					2.63
24.917	0.00	2.57	5.507	0					2.62
25.000	0.00	2.57	5.489	0					2.62
25.083	0.00	2.57	5.471	0					2.61
25.167	0.00	2.56	5.453	0					2.60
25.250	0.00	2.56	5.436	0					2.60
25.333	0.00	2.56	5.418	0					2.59
25.417	0.00	2.56	5.401	0					2.58
25.500	0.00	2.55	5.383	0					2.58
25.583	0.00	2.55	5.365	0					2.57

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.55	5.348	0					2.57
25.750	0.00	2.55	5.330	0					2.56
25.833	0.00	2.54	5.313	0					2.55
25.917	0.00	2.54	5.295	0					2.55
26.000	0.00	2.54	5.278	0					2.54
26.083	0.00	2.54	5.260	0					2.53
26.167	0.00	2.53	5.243	0					2.53
26.250	0.00	2.53	5.225	0					2.52
26.333	0.00	2.53	5.208	0					2.51
26.417	0.00	2.53	5.191	0					2.51
26.500	0.00	2.53	5.173	0					2.50
26.583	0.00	2.52	5.156	0					2.49
26.667	0.00	2.52	5.138	0					2.49
26.750	0.00	2.52	5.121	0					2.48
26.833	0.00	2.52	5.104	0					2.48
26.917	0.00	2.51	5.086	0					2.47
27.000	0.00	2.51	5.069	0					2.46
27.083	0.00	2.51	5.052	0					2.46
27.167	0.00	2.51	5.034	0					2.45
27.250	0.00	2.50	5.017	0					2.44
27.333	0.00	2.50	5.000	0					2.44
27.417	0.00	2.50	4.983	0					2.43
27.500	0.00	2.50	4.966	0					2.43
27.583	0.00	2.49	4.948	0					2.42
27.667	0.00	2.49	4.931	0					2.41
27.750	0.00	2.49	4.914	0					2.41
27.833	0.00	2.49	4.897	0					2.40
27.917	0.00	2.49	4.880	0					2.39
28.000	0.00	2.48	4.863	0					2.39
28.083	0.00	2.48	4.846	0					2.38
28.167	0.00	2.48	4.828	0					2.37
28.250	0.00	2.48	4.811	0					2.37
28.333	0.00	2.47	4.794	0					2.36
28.417	0.00	2.47	4.777	0					2.36
28.500	0.00	2.47	4.760	0					2.35
28.583	0.00	2.47	4.743	0					2.34
28.667	0.00	2.46	4.726	0					2.34
28.750	0.00	2.46	4.709	0					2.33
28.833	0.00	2.46	4.692	0					2.32
28.917	0.00	2.46	4.675	0					2.32
29.000	0.00	2.46	4.659	0					2.31
29.083	0.00	2.45	4.642	0					2.31
29.167	0.00	2.45	4.625	0					2.30
29.250	0.00	2.45	4.608	0					2.29
29.333	0.00	2.45	4.591	0					2.29
29.417	0.00	2.44	4.574	0					2.28
29.500	0.00	2.44	4.557	0					2.28
29.583	0.00	2.44	4.541	0					2.27
29.667	0.00	2.44	4.524	0					2.26
29.750	0.00	2.44	4.507	0					2.26
29.833	0.00	2.43	4.490	0					2.25
29.917	0.00	2.43	4.473	0					2.24
30.000	0.00	2.43	4.457	0					2.24
30.083	0.00	2.43	4.440	0					2.23
30.167	0.00	2.42	4.423	0					2.23
30.250	0.00	2.42	4.407	0					2.22
30.333	0.00	2.42	4.390	0					2.21
30.417	0.00	2.42	4.373	0					2.21
30.500	0.00	2.41	4.357	0					2.20
30.583	0.00	2.41	4.340	0					2.20
30.667	0.00	2.41	4.323	0					2.19
30.750	0.00	2.41	4.307	0					2.18
30.833	0.00	2.41	4.290	0					2.18

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	2.40	4.274	0					2.17
31.000	0.00	2.40	4.257	0					2.17
31.083	0.00	2.40	4.241	0					2.16
31.167	0.00	2.40	4.224	0					2.15
31.250	0.00	2.39	4.208	0					2.15
31.333	0.00	2.39	4.191	0					2.14
31.417	0.00	2.39	4.175	0					2.14
31.500	0.00	2.39	4.158	0					2.13
31.583	0.00	2.39	4.142	0					2.12
31.667	0.00	2.38	4.125	0					2.12
31.750	0.00	2.38	4.109	0					2.11
31.833	0.00	2.38	4.093	0					2.11
31.917	0.00	2.38	4.076	0					2.10
32.000	0.00	2.37	4.060	0					2.09
32.083	0.00	2.37	4.044	0					2.09
32.167	0.00	2.37	4.027	0					2.08
32.250	0.00	2.37	4.011	0					2.08
32.333	0.00	2.37	3.995	0					2.07
32.417	0.00	2.36	3.978	0					2.06
32.500	0.00	2.36	3.962	0					2.06
32.583	0.00	2.36	3.946	0					2.05
32.667	0.00	2.36	3.930	0					2.05
32.750	0.00	2.35	3.913	0					2.04
32.833	0.00	2.35	3.897	0					2.03
32.917	0.00	2.35	3.881	0					2.03
33.000	0.00	2.35	3.865	0					2.02
33.083	0.00	2.35	3.849	0					2.02
33.167	0.00	2.34	3.832	0					2.01
33.250	0.00	2.34	3.816	0					2.00
33.333	0.00	2.34	3.800	0					2.00
33.417	0.00	2.34	3.784	0					1.99
33.500	0.00	2.33	3.768	0					1.98
33.583	0.00	2.33	3.752	0					1.97
33.667	0.00	2.33	3.736	0					1.97
33.750	0.00	2.32	3.720	0					1.96
33.833	0.00	2.32	3.704	0					1.95
33.917	0.00	2.32	3.688	0					1.94
34.000	0.00	2.31	3.672	0					1.94
34.083	0.00	2.31	3.656	0					1.93
34.167	0.00	2.31	3.640	0					1.92
34.250	0.00	2.30	3.624	0					1.91
34.333	0.00	2.30	3.608	0					1.91
34.417	0.00	2.30	3.593	0					1.90
34.500	0.00	2.29	3.577	0					1.89
34.583	0.00	2.29	3.561	0					1.88
34.667	0.00	2.29	3.545	0					1.88
34.750	0.00	2.28	3.530	0					1.87
34.833	0.00	2.28	3.514	0					1.86
34.917	0.00	2.28	3.498	0					1.85
35.000	0.00	2.27	3.482	0					1.85
35.083	0.00	2.27	3.467	0					1.84
35.167	0.00	2.27	3.451	0					1.83
35.250	0.00	2.26	3.436	0					1.82
35.333	0.00	2.26	3.420	0					1.82
35.417	0.00	2.26	3.404	0					1.81
35.500	0.00	2.26	3.389	0					1.80
35.583	0.00	2.25	3.373	0					1.80
35.667	0.00	2.25	3.358	0					1.79
35.750	0.00	2.25	3.342	0					1.78
35.833	0.00	2.24	3.327	0					1.77
35.917	0.00	2.24	3.312	0					1.77
36.000	0.00	2.24	3.296	0					1.76
36.083	0.00	2.23	3.281	0					1.75

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

36.167	0.00	2.23	3.265	0					1.74
36.250	0.00	2.23	3.250	0					1.74
36.333	0.00	2.22	3.235	0					1.73
36.417	0.00	2.22	3.219	0					1.72
36.500	0.00	2.22	3.204	0					1.72
36.583	0.00	2.21	3.189	0					1.71
36.667	0.00	2.21	3.174	0					1.70
36.750	0.00	2.21	3.158	0					1.69
36.833	0.00	2.21	3.143	0					1.69
36.917	0.00	2.20	3.128	0					1.68
37.000	0.00	2.20	3.113	0					1.67
37.083	0.00	2.20	3.098	0					1.66
37.167	0.00	2.19	3.083	0					1.66
37.250	0.00	2.19	3.068	0					1.65
37.333	0.00	2.19	3.052	0					1.64
37.417	0.00	2.18	3.037	0					1.64
37.500	0.00	2.18	3.022	0					1.63
37.583	0.00	2.18	3.007	0					1.62
37.667	0.00	2.17	2.992	0					1.61
37.750	0.00	2.17	2.977	0					1.61
37.833	0.00	2.17	2.962	0					1.60
37.917	0.00	2.17	2.948	0					1.59
38.000	0.00	2.16	2.933	0					1.59
38.083	0.00	2.16	2.918	0					1.58
38.167	0.00	2.16	2.903	0					1.57
38.250	0.00	2.15	2.888	0					1.57
38.333	0.00	2.15	2.873	0					1.56
38.417	0.00	2.15	2.858	0					1.55
38.500	0.00	2.14	2.844	0					1.54
38.583	0.00	2.14	2.829	0					1.54
38.667	0.00	2.14	2.814	0					1.53
38.750	0.00	2.14	2.799	0					1.52
38.833	0.00	2.13	2.785	0					1.52
38.917	0.00	2.13	2.770	0					1.51
39.000	0.00	2.13	2.755	0					1.50
39.083	0.00	2.12	2.741	0					1.50
39.167	0.00	2.12	2.726	0					1.49
39.250	0.00	2.12	2.712	0					1.48
39.333	0.00	2.11	2.697	0					1.48
39.417	0.00	2.11	2.682	0					1.47
39.500	0.00	2.11	2.668	0					1.46
39.583	0.00	2.11	2.653	0					1.45
39.667	0.00	2.10	2.639	0					1.45
39.750	0.00	2.10	2.624	0					1.44
39.833	0.00	2.10	2.610	0					1.43
39.917	0.00	2.09	2.596	0					1.43
40.000	0.00	2.09	2.581	0					1.42
40.083	0.00	2.09	2.567	0					1.41
40.167	0.00	2.08	2.552	0					1.41
40.250	0.00	2.08	2.538	0					1.40
40.333	0.00	2.08	2.524	0					1.39
40.417	0.00	2.08	2.509	0					1.39
40.500	0.00	2.07	2.495	0					1.38
40.583	0.00	2.07	2.481	0					1.37
40.667	0.00	2.07	2.467	0					1.37
40.750	0.00	2.06	2.452	0					1.36
40.833	0.00	2.06	2.438	0					1.35
40.917	0.00	2.06	2.424	0					1.35
41.000	0.00	2.06	2.410	0					1.34
41.083	0.00	2.05	2.396	0					1.33
41.167	0.00	2.05	2.382	0					1.33
41.250	0.00	2.05	2.367	0					1.32
41.333	0.00	2.04	2.353	0					1.31

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	2.04	2.339	0					1.31
41.500	0.00	2.04	2.325	0					1.30
41.583	0.00	2.04	2.311	0					1.29
41.667	0.00	2.03	2.297	0					1.29
41.750	0.00	2.03	2.283	0					1.28
41.833	0.00	2.03	2.269	0					1.27
41.917	0.00	2.02	2.255	0					1.27
42.000	0.00	2.02	2.241	0					1.26
42.083	0.00	2.02	2.227	0					1.25
42.167	0.00	2.02	2.214	0					1.25
42.250	0.00	2.01	2.200	0					1.24
42.333	0.00	2.01	2.186	0					1.23
42.417	0.00	2.01	2.172	0					1.23
42.500	0.00	2.00	2.158	0					1.22
42.583	0.00	2.00	2.144	0					1.21
42.667	0.00	2.00	2.131	0					1.21
42.750	0.00	2.00	2.117	0					1.20
42.833	0.00	1.99	2.103	0					1.19
42.917	0.00	1.99	2.089	0					1.19
43.000	0.00	1.99	2.076	0					1.18
43.083	0.00	1.99	2.062	0					1.17
43.167	0.00	1.98	2.048	0					1.17
43.250	0.00	1.98	2.035	0					1.16
43.333	0.00	1.98	2.021	0					1.16
43.417	0.00	1.97	2.007	0					1.15
43.500	0.00	1.97	1.994	0					1.14
43.583	0.00	1.97	1.980	0					1.14
43.667	0.00	1.97	1.967	0					1.13
43.750	0.00	1.96	1.953	0					1.12
43.833	0.00	1.96	1.940	0					1.12
43.917	0.00	1.96	1.926	0					1.11
44.000	0.00	1.95	1.913	0					1.10
44.083	0.00	1.95	1.899	0					1.10
44.167	0.00	1.95	1.886	0					1.09
44.250	0.00	1.95	1.872	0					1.08
44.333	0.00	1.94	1.859	0					1.08
44.417	0.00	1.94	1.846	0					1.07
44.500	0.00	1.94	1.832	0					1.07
44.583	0.00	1.94	1.819	0					1.06
44.667	0.00	1.93	1.806	0					1.05
44.750	0.00	1.93	1.792	0					1.05
44.833	0.00	1.93	1.779	0					1.04
44.917	0.00	1.92	1.766	0					1.03
45.000	0.00	1.92	1.753	0					1.03
45.083	0.00	1.92	1.739	0					1.02
45.167	0.00	1.92	1.726	0					1.02
45.250	0.00	1.91	1.713	0					1.01
45.333	0.00	1.91	1.700	0					1.00
45.417	0.00	1.90	1.687	0					1.00
45.500	0.00	1.89	1.674	0					0.99
45.583	0.00	1.87	1.661	0					0.98
45.667	0.00	1.86	1.648	0					0.97
45.750	0.00	1.84	1.635	0					0.97
45.833	0.00	1.83	1.622	0					0.96
45.917	0.00	1.82	1.610	0					0.95
46.000	0.00	1.80	1.597	0					0.94
46.083	0.00	1.79	1.585	0					0.94
46.167	0.00	1.77	1.573	0					0.93
46.250	0.00	1.76	1.561	0					0.92
46.333	0.00	1.75	1.548	0					0.91
46.417	0.00	1.73	1.536	0					0.91
46.500	0.00	1.72	1.525	0					0.90
46.583	0.00	1.71	1.513	0					0.89

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

46.667	0.00	1.69	1.501	0					0.89
46.750	0.00	1.68	1.489	0					0.88
46.833	0.00	1.67	1.478	0					0.87
46.917	0.00	1.65	1.466	0					0.87
47.000	0.00	1.64	1.455	0					0.86
47.083	0.00	1.63	1.444	0					0.85
47.167	0.00	1.62	1.433	0					0.85
47.250	0.00	1.60	1.422	0					0.84
47.333	0.00	1.59	1.411	0					0.83
47.417	0.00	1.58	1.400	0					0.83
47.500	0.00	1.57	1.389	0					0.82
47.583	0.00	1.55	1.378	0					0.81
47.667	0.00	1.54	1.367	0					0.81
47.750	0.00	1.53	1.357	0					0.80
47.833	0.00	1.52	1.346	0					0.80
47.917	0.00	1.51	1.336	0					0.79
48.000	0.00	1.50	1.326	0					0.78
48.083	0.00	1.48	1.315	0					0.78
48.167	0.00	1.47	1.305	0					0.77
48.250	0.00	1.46	1.295	0					0.76
48.333	0.00	1.45	1.285	0					0.76
48.417	0.00	1.44	1.275	0					0.75
48.500	0.00	1.43	1.265	0					0.75
48.583	0.00	1.42	1.255	0					0.74
48.667	0.00	1.41	1.246	0					0.74
48.750	0.00	1.39	1.236	0					0.73
48.833	0.00	1.38	1.226	0					0.72
48.917	0.00	1.37	1.217	0					0.72
49.000	0.00	1.36	1.208	0					0.71
49.083	0.00	1.35	1.198	0					0.71
49.167	0.00	1.34	1.189	0					0.70
49.250	0.00	1.33	1.180	0					0.70
49.333	0.00	1.32	1.171	0					0.69
49.417	0.00	1.31	1.162	0					0.69
49.500	0.00	1.30	1.153	0					0.68
49.583	0.00	1.29	1.144	0					0.68
49.667	0.00	1.28	1.135	0					0.67
49.750	0.00	1.27	1.126	0					0.67
49.833	0.00	1.26	1.117	0					0.66
49.917	0.00	1.25	1.109	0					0.65
50.000	0.00	1.24	1.100	0					0.65
50.083	0.00	1.23	1.092	0					0.64
50.167	0.00	1.22	1.083	0					0.64
50.250	0.00	1.21	1.075	0					0.63
50.333	0.00	1.20	1.066	0					0.63
50.417	0.00	1.19	1.058	0					0.63
50.500	0.00	1.18	1.050	0					0.62
50.583	0.00	1.18	1.042	0					0.62
50.667	0.00	1.17	1.034	0					0.61
50.750	0.00	1.16	1.026	0					0.61
50.833	0.00	1.15	1.018	0					0.60
50.917	0.00	1.14	1.010	0					0.60
51.000	0.00	1.13	1.002	0					0.59
51.083	0.00	1.12	0.994	0					0.59
51.167	0.00	1.11	0.987	0					0.58
51.250	0.00	1.10	0.979	0					0.58
51.333	0.00	1.10	0.971	0					0.57
51.417	0.00	1.09	0.964	0					0.57
51.500	0.00	1.08	0.957	0					0.56
51.583	0.00	1.07	0.949	0					0.56
51.667	0.00	1.06	0.942	0					0.56
51.750	0.00	1.05	0.934	0					0.55
51.833	0.00	1.05	0.927	0					0.55



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	1.04	0.920	o					0.54
52.000	0.00	1.03	0.913	o					0.54
52.083	0.00	1.02	0.906	o					0.54
52.167	0.00	1.01	0.899	o					0.53
52.250	0.00	1.01	0.892	o					0.53
52.333	0.00	1.00	0.885	o					0.52
52.417	0.00	0.99	0.878	o					0.52
52.500	0.00	0.98	0.871	o					0.51
52.583	0.00	0.98	0.865	o					0.51
52.667	0.00	0.97	0.858	o					0.51
52.750	0.00	0.96	0.851	o					0.50
52.833	0.00	0.95	0.845	o					0.50
52.917	0.00	0.95	0.838	o					0.50
53.000	0.00	0.94	0.832	o					0.49
53.083	0.00	0.93	0.825	o					0.49
53.167	0.00	0.92	0.819	o					0.48
53.250	0.00	0.92	0.813	o					0.48
53.333	0.00	0.91	0.806	o					0.48
53.417	0.00	0.90	0.800	o					0.47
53.500	0.00	0.90	0.794	o					0.47
53.583	0.00	0.89	0.788	o					0.47
53.667	0.00	0.88	0.782	o					0.46
53.750	0.00	0.87	0.775	o					0.46
53.833	0.00	0.87	0.769	o					0.45
53.917	0.00	0.86	0.764	o					0.45
54.000	0.00	0.85	0.758	o					0.45
54.083	0.00	0.85	0.752	o					0.44
54.167	0.00	0.84	0.746	o					0.44
54.250	0.00	0.84	0.740	o					0.44
54.333	0.00	0.83	0.734	o					0.43
54.417	0.00	0.82	0.729	o					0.43
54.500	0.00	0.82	0.723	o					0.43
54.583	0.00	0.81	0.718	o					0.42
54.667	0.00	0.80	0.712	o					0.42
54.750	0.00	0.80	0.706	o					0.42
54.833	0.00	0.79	0.701	o					0.41
54.917	0.00	0.78	0.696	o					0.41
55.000	0.00	0.78	0.690	o					0.41
55.083	0.00	0.77	0.685	o					0.40
55.167	0.00	0.77	0.680	o					0.40
55.250	0.00	0.76	0.674	o					0.40
55.333	0.00	0.75	0.669	o					0.40
55.417	0.00	0.75	0.664	o					0.39
55.500	0.00	0.74	0.659	o					0.39
55.583	0.00	0.74	0.654	o					0.39
55.667	0.00	0.73	0.649	o					0.38
55.750	0.00	0.73	0.644	o					0.38
55.833	0.00	0.72	0.639	o					0.38
55.917	0.00	0.71	0.634	o					0.37
56.000	0.00	0.71	0.629	o					0.37
56.083	0.00	0.70	0.624	o					0.37
56.167	0.00	0.70	0.619	o					0.37
56.250	0.00	0.69	0.614	o					0.36
56.333	0.00	0.69	0.609	o					0.36
56.417	0.00	0.68	0.605	o					0.36
56.500	0.00	0.68	0.600	o					0.35
56.583	0.00	0.67	0.595	o					0.35
56.667	0.00	0.67	0.591	o					0.35
56.750	0.00	0.66	0.586	o					0.35
56.833	0.00	0.66	0.582	o					0.34
56.917	0.00	0.65	0.577	o					0.34
57.000	0.00	0.65	0.573	o					0.34
57.083	0.00	0.64	0.568	o					0.34

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

57.167	0.00	0.64	0.564	0					0.33
57.250	0.00	0.63	0.560	0					0.33
57.333	0.00	0.63	0.555	0					0.33
57.417	0.00	0.62	0.551	0					0.33
57.500	0.00	0.62	0.547	0					0.32
57.583	0.00	0.61	0.542	0					0.32
57.667	0.00	0.61	0.538	0					0.32
57.750	0.00	0.60	0.534	0					0.32
57.833	0.00	0.60	0.530	0					0.31
57.917	0.00	0.59	0.526	0					0.31
58.000	0.00	0.59	0.522	0					0.31
58.083	0.00	0.58	0.518	0					0.31
58.167	0.00	0.58	0.514	0					0.30
58.250	0.00	0.58	0.510	0					0.30
58.333	0.00	0.57	0.506	0					0.30
58.417	0.00	0.57	0.502	0					0.30
58.500	0.00	0.56	0.498	0					0.29
58.583	0.00	0.56	0.494	0					0.29
58.667	0.00	0.55	0.490	0					0.29
58.750	0.00	0.55	0.487	0					0.29
58.833	0.00	0.54	0.483	0					0.29
58.917	0.00	0.54	0.479	0					0.28
59.000	0.00	0.54	0.475	0					0.28
59.083	0.00	0.53	0.472	0					0.28
59.167	0.00	0.53	0.468	0					0.28
59.250	0.00	0.52	0.464	0					0.27
59.333	0.00	0.52	0.461	0					0.27
59.417	0.00	0.52	0.457	0					0.27
59.500	0.00	0.51	0.454	0					0.27
59.583	0.00	0.51	0.450	0					0.27
59.667	0.00	0.50	0.447	0					0.26
59.750	0.00	0.50	0.443	0					0.26
59.833	0.00	0.50	0.440	0					0.26
59.917	0.00	0.49	0.436	0					0.26
60.000	0.00	0.49	0.433	0					0.26
60.083	0.00	0.48	0.430	0					0.25
60.167	0.00	0.48	0.426	0					0.25
60.250	0.00	0.48	0.423	0					0.25
60.333	0.00	0.47	0.420	0					0.25
60.417	0.00	0.47	0.417	0					0.25
60.500	0.00	0.47	0.413	0					0.24
60.583	0.00	0.46	0.410	0					0.24
60.667	0.00	0.46	0.407	0					0.24
60.750	0.00	0.46	0.404	0					0.24
60.833	0.00	0.45	0.401	0					0.24
60.917	0.00	0.45	0.398	0					0.23
61.000	0.00	0.45	0.394	0					0.23
61.083	0.00	0.44	0.391	0					0.23
61.167	0.00	0.44	0.388	0					0.23
61.250	0.00	0.43	0.385	0					0.23
61.333	0.00	0.43	0.382	0					0.23
61.417	0.00	0.43	0.379	0					0.22
61.500	0.00	0.42	0.376	0					0.22
61.583	0.00	0.42	0.374	0					0.22
61.667	0.00	0.42	0.371	0					0.22
61.750	0.00	0.41	0.368	0					0.22
61.833	0.00	0.41	0.365	0					0.22
61.917	0.00	0.41	0.362	0					0.21
62.000	0.00	0.41	0.359	0					0.21
62.083	0.00	0.40	0.357	0					0.21
62.167	0.00	0.40	0.354	0					0.21
62.250	0.00	0.40	0.351	0					0.21
62.333	0.00	0.39	0.348	0					0.21

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

62.417	0.00	0.39	0.346	0					0.20
62.500	0.00	0.39	0.343	0					0.20
62.583	0.00	0.38	0.340	0					0.20
62.667	0.00	0.38	0.338	0					0.20
62.750	0.00	0.38	0.335	0					0.20
62.833	0.00	0.38	0.332	0					0.20
62.917	0.00	0.37	0.330	0					0.19
63.000	0.00	0.37	0.327	0					0.19
63.083	0.00	0.37	0.325	0					0.19
63.167	0.00	0.36	0.322	0					0.19
63.250	0.00	0.36	0.320	0					0.19
63.333	0.00	0.36	0.317	0					0.19
63.417	0.00	0.36	0.315	0					0.19
63.500	0.00	0.35	0.312	0					0.18
63.583	0.00	0.35	0.310	0					0.18
63.667	0.00	0.35	0.308	0					0.18
63.750	0.00	0.34	0.305	0					0.18
63.833	0.00	0.34	0.303	0					0.18
63.917	0.00	0.34	0.301	0					0.18
64.000	0.00	0.34	0.298	0					0.18
64.083	0.00	0.33	0.296	0					0.17
64.167	0.00	0.33	0.294	0					0.17
64.250	0.00	0.33	0.291	0					0.17
64.333	0.00	0.33	0.289	0					0.17
64.417	0.00	0.32	0.287	0					0.17
64.500	0.00	0.32	0.285	0					0.17
64.583	0.00	0.32	0.282	0					0.17
64.667	0.00	0.32	0.280	0					0.17
64.750	0.00	0.31	0.278	0					0.16
64.833	0.00	0.31	0.276	0					0.16
64.917	0.00	0.31	0.274	0					0.16
65.000	0.00	0.31	0.272	0					0.16
65.083	0.00	0.30	0.270	0					0.16
65.167	0.00	0.30	0.267	0					0.16
65.250	0.00	0.30	0.265	0					0.16
65.333	0.00	0.30	0.263	0					0.16
65.417	0.00	0.29	0.261	0					0.15
65.500	0.00	0.29	0.259	0					0.15
65.583	0.00	0.29	0.257	0					0.15
65.667	0.00	0.29	0.255	0					0.15
65.750	0.00	0.29	0.253	0					0.15
65.833	0.00	0.28	0.251	0					0.15
65.917	0.00	0.28	0.249	0					0.15
66.000	0.00	0.28	0.247	0					0.15
66.083	0.00	0.28	0.246	0					0.15
66.167	0.00	0.27	0.244	0					0.14
66.250	0.00	0.27	0.242	0					0.14
66.333	0.00	0.27	0.240	0					0.14
66.417	0.00	0.27	0.238	0					0.14
66.500	0.00	0.27	0.236	0					0.14
66.583	0.00	0.26	0.234	0					0.14
66.667	0.00	0.26	0.233	0					0.14
66.750	0.00	0.26	0.231	0					0.14
66.833	0.00	0.26	0.229	0					0.14
66.917	0.00	0.26	0.227	0					0.13
67.000	0.00	0.25	0.225	0					0.13
67.083	0.00	0.25	0.224	0					0.13
67.167	0.00	0.25	0.222	0					0.13
67.250	0.00	0.25	0.220	0					0.13
67.333	0.00	0.25	0.219	0					0.13
67.417	0.00	0.24	0.217	0					0.13
67.500	0.00	0.24	0.215	0					0.13
67.583	0.00	0.24	0.214	0					0.13

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.24	0.212	o					0.13
67.750	0.00	0.24	0.210	o					0.12
67.833	0.00	0.24	0.209	o					0.12
67.917	0.00	0.23	0.207	o					0.12
68.000	0.00	0.23	0.205	o					0.12
68.083	0.00	0.23	0.204	o					0.12
68.167	0.00	0.23	0.202	o					0.12
68.250	0.00	0.23	0.201	o					0.12
68.333	0.00	0.22	0.199	o					0.12
68.417	0.00	0.22	0.198	o					0.12
68.500	0.00	0.22	0.196	o					0.12
68.583	0.00	0.22	0.195	o					0.11
68.667	0.00	0.22	0.193	o					0.11
68.750	0.00	0.22	0.192	o					0.11
68.833	0.00	0.21	0.190	o					0.11
68.917	0.00	0.21	0.189	o					0.11
69.000	0.00	0.21	0.187	o					0.11
69.083	0.00	0.21	0.186	o					0.11
69.167	0.00	0.21	0.184	o					0.11
69.250	0.00	0.21	0.183	o					0.11
69.333	0.00	0.20	0.181	o					0.11
69.417	0.00	0.20	0.180	o					0.11
69.500	0.00	0.20	0.179	o					0.11
69.583	0.00	0.20	0.177	o					0.10
69.667	0.00	0.20	0.176	o					0.10
69.750	0.00	0.20	0.174	o					0.10
69.833	0.00	0.20	0.173	o					0.10
69.917	0.00	0.19	0.172	o					0.10
70.000	0.00	0.19	0.170	o					0.10
70.083	0.00	0.19	0.169	o					0.10
70.167	0.00	0.19	0.168	o					0.10
70.250	0.00	0.19	0.167	o					0.10
70.333	0.00	0.19	0.165	o					0.10
70.417	0.00	0.18	0.164	o					0.10
70.500	0.00	0.18	0.163	o					0.10
70.583	0.00	0.18	0.161	o					0.10
70.667	0.00	0.18	0.160	o					0.09
70.750	0.00	0.18	0.159	o					0.09
70.833	0.00	0.18	0.158	o					0.09
70.917	0.00	0.18	0.156	o					0.09
71.000	0.00	0.18	0.155	o					0.09
71.083	0.00	0.17	0.154	o					0.09
71.167	0.00	0.17	0.153	o					0.09
71.250	0.00	0.17	0.152	o					0.09
71.333	0.00	0.17	0.151	o					0.09
71.417	0.00	0.17	0.149	o					0.09
71.500	0.00	0.17	0.148	o					0.09
71.583	0.00	0.17	0.147	o					0.09
71.667	0.00	0.16	0.146	o					0.09
71.750	0.00	0.16	0.145	o					0.09
71.833	0.00	0.16	0.144	o					0.08
71.917	0.00	0.16	0.143	o					0.08
72.000	0.00	0.16	0.141	o					0.08
72.083	0.00	0.16	0.140	o					0.08
72.167	0.00	0.16	0.139	o					0.08
72.250	0.00	0.16	0.138	o					0.08
72.333	0.00	0.15	0.137	o					0.08
72.417	0.00	0.15	0.136	o					0.08
72.500	0.00	0.15	0.135	o					0.08
72.583	0.00	0.15	0.134	o					0.08
72.667	0.00	0.15	0.133	o					0.08
72.750	0.00	0.15	0.132	o					0.08
72.833	0.00	0.15	0.131	o					0.08

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.15	0.130	o					0.08
73.000	0.00	0.15	0.129	o					0.08
73.083	0.00	0.14	0.128	o					0.08
73.167	0.00	0.14	0.127	o					0.07
73.250	0.00	0.14	0.126	o					0.07
73.333	0.00	0.14	0.125	o					0.07
73.417	0.00	0.14	0.124	o					0.07
73.500	0.00	0.14	0.123	o					0.07
73.583	0.00	0.14	0.122	o					0.07
73.667	0.00	0.14	0.121	o					0.07
73.750	0.00	0.14	0.120	o					0.07
73.833	0.00	0.13	0.119	o					0.07
73.917	0.00	0.13	0.118	o					0.07
74.000	0.00	0.13	0.117	o					0.07
74.083	0.00	0.13	0.116	o					0.07
74.167	0.00	0.13	0.116	o					0.07
74.250	0.00	0.13	0.115	o					0.07
74.333	0.00	0.13	0.114	o					0.07
74.417	0.00	0.13	0.113	o					0.07
74.500	0.00	0.13	0.112	o					0.07
74.583	0.00	0.13	0.111	o					0.07
74.667	0.00	0.12	0.110	o					0.07
74.750	0.00	0.12	0.109	o					0.06
74.833	0.00	0.12	0.109	o					0.06
74.917	0.00	0.12	0.108	o					0.06
75.000	0.00	0.12	0.107	o					0.06
75.083	0.00	0.12	0.106	o					0.06
75.167	0.00	0.12	0.105	o					0.06
75.250	0.00	0.12	0.104	o					0.06
75.333	0.00	0.12	0.104	o					0.06
75.417	0.00	0.12	0.103	o					0.06
75.500	0.00	0.12	0.102	o					0.06
75.583	0.00	0.11	0.101	o					0.06
75.667	0.00	0.11	0.100	o					0.06
75.750	0.00	0.11	0.100	o					0.06
75.833	0.00	0.11	0.099	o					0.06
75.917	0.00	0.11	0.098	o					0.06
76.000	0.00	0.11	0.097	o					0.06
76.083	0.00	0.11	0.097	o					0.06
76.167	0.00	0.11	0.096	o					0.06
76.250	0.00	0.11	0.095	o					0.06
76.333	0.00	0.11	0.094	o					0.06
76.417	0.00	0.11	0.094	o					0.06
76.500	0.00	0.10	0.093	o					0.05
76.583	0.00	0.10	0.092	o					0.05
76.667	0.00	0.10	0.092	o					0.05
76.750	0.00	0.10	0.091	o					0.05
76.833	0.00	0.10	0.090	o					0.05
76.917	0.00	0.10	0.089	o					0.05
77.000	0.00	0.10	0.089	o					0.05
77.083	0.00	0.10	0.088	o					0.05
77.167	0.00	0.10	0.087	o					0.05
77.250	0.00	0.10	0.087	o					0.05
77.333	0.00	0.10	0.086	o					0.05
77.417	0.00	0.10	0.085	o					0.05
77.500	0.00	0.10	0.085	o					0.05
77.583	0.00	0.09	0.084	o					0.05
77.667	0.00	0.09	0.083	o					0.05
77.750	0.00	0.09	0.083	o					0.05
77.833	0.00	0.09	0.082	o					0.05
77.917	0.00	0.09	0.081	o					0.05
78.000	0.00	0.09	0.081	o					0.05
78.083	0.00	0.09	0.080	o					0.05

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## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.09	0.080	o					0.05
78.250	0.00	0.09	0.079	o					0.05
78.333	0.00	0.09	0.078	o					0.05
78.417	0.00	0.09	0.078	o					0.05
78.500	0.00	0.09	0.077	o					0.05
78.583	0.00	0.09	0.077	o					0.05
78.667	0.00	0.09	0.076	o					0.04
78.750	0.00	0.09	0.075	o					0.04
78.833	0.00	0.08	0.075	o					0.04
78.917	0.00	0.08	0.074	o					0.04
79.000	0.00	0.08	0.074	o					0.04
79.083	0.00	0.08	0.073	o					0.04
79.167	0.00	0.08	0.073	o					0.04
79.250	0.00	0.08	0.072	o					0.04
79.333	0.00	0.08	0.071	o					0.04
79.417	0.00	0.08	0.071	o					0.04
79.500	0.00	0.08	0.070	o					0.04
79.583	0.00	0.08	0.070	o					0.04
79.667	0.00	0.08	0.069	o					0.04
79.750	0.00	0.08	0.069	o					0.04
79.833	0.00	0.08	0.068	o					0.04
79.917	0.00	0.08	0.068	o					0.04
80.000	0.00	0.08	0.067	o					0.04
80.083	0.00	0.08	0.067	o					0.04
80.167	0.00	0.07	0.066	o					0.04
80.250	0.00	0.07	0.066	o					0.04
80.333	0.00	0.07	0.065	o					0.04
80.417	0.00	0.07	0.065	o					0.04
80.500	0.00	0.07	0.064	o					0.04
80.583	0.00	0.07	0.064	o					0.04
80.667	0.00	0.07	0.063	o					0.04
80.750	0.00	0.07	0.063	o					0.04
80.833	0.00	0.07	0.062	o					0.04
80.917	0.00	0.07	0.062	o					0.04
81.000	0.00	0.07	0.061	o					0.04
81.083	0.00	0.07	0.061	o					0.04
81.167	0.00	0.07	0.060	o					0.04
81.250	0.00	0.07	0.060	o					0.04
81.333	0.00	0.07	0.059	o					0.03
81.417	0.00	0.07	0.059	o					0.03
81.500	0.00	0.07	0.058	o					0.03
81.583	0.00	0.07	0.058	o					0.03
81.667	0.00	0.06	0.057	o					0.03
81.750	0.00	0.06	0.057	o					0.03
81.833	0.00	0.06	0.057	o					0.03
81.917	0.00	0.06	0.056	o					0.03
82.000	0.00	0.06	0.056	o					0.03
82.083	0.00	0.06	0.055	o					0.03
82.167	0.00	0.06	0.055	o					0.03
82.250	0.00	0.06	0.054	o					0.03
82.333	0.00	0.06	0.054	o					0.03
82.417	0.00	0.06	0.054	o					0.03
82.500	0.00	0.06	0.053	o					0.03
82.583	0.00	0.06	0.053	o					0.03
82.667	0.00	0.06	0.052	o					0.03
82.750	0.00	0.06	0.052	o					0.03
82.833	0.00	0.06	0.052	o					0.03
82.917	0.00	0.06	0.051	o					0.03
83.000	0.00	0.06	0.051	o					0.03
83.083	0.00	0.06	0.050	o					0.03
83.167	0.00	0.06	0.050	o					0.03
83.250	0.00	0.06	0.050	o					0.03
83.333	0.00	0.06	0.049	o					0.03

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## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.06	0.049	o					0.03
83.500	0.00	0.05	0.048	o					0.03
83.583	0.00	0.05	0.048	o					0.03
83.667	0.00	0.05	0.048	o					0.03
83.750	0.00	0.05	0.047	o					0.03
83.833	0.00	0.05	0.047	o					0.03
83.917	0.00	0.05	0.047	o					0.03
84.000	0.00	0.05	0.046	o					0.03
84.083	0.00	0.05	0.046	o					0.03
84.167	0.00	0.05	0.045	o					0.03
84.250	0.00	0.05	0.045	o					0.03
84.333	0.00	0.05	0.045	o					0.03
84.417	0.00	0.05	0.044	o					0.03
84.500	0.00	0.05	0.044	o					0.03
84.583	0.00	0.05	0.044	o					0.03
84.667	0.00	0.05	0.043	o					0.03
84.750	0.00	0.05	0.043	o					0.03
84.833	0.00	0.05	0.043	o					0.03
84.917	0.00	0.05	0.042	o					0.03
85.000	0.00	0.05	0.042	o					0.02
85.083	0.00	0.05	0.042	o					0.02
85.167	0.00	0.05	0.041	o					0.02
85.250	0.00	0.05	0.041	o					0.02
85.333	0.00	0.05	0.041	o					0.02
85.417	0.00	0.05	0.040	o					0.02
85.500	0.00	0.05	0.040	o					0.02
85.583	0.00	0.04	0.040	o					0.02
85.667	0.00	0.04	0.040	o					0.02
85.750	0.00	0.04	0.039	o					0.02
85.833	0.00	0.04	0.039	o					0.02
85.917	0.00	0.04	0.039	o					0.02
86.000	0.00	0.04	0.038	o					0.02
86.083	0.00	0.04	0.038	o					0.02
86.167	0.00	0.04	0.038	o					0.02
86.250	0.00	0.04	0.037	o					0.02
86.333	0.00	0.04	0.037	o					0.02
86.417	0.00	0.04	0.037	o					0.02
86.500	0.00	0.04	0.037	o					0.02
86.583	0.00	0.04	0.036	o					0.02
86.667	0.00	0.04	0.036	o					0.02
86.750	0.00	0.04	0.036	o					0.02
86.833	0.00	0.04	0.035	o					0.02
86.917	0.00	0.04	0.035	o					0.02
87.000	0.00	0.04	0.035	o					0.02
87.083	0.00	0.04	0.035	o					0.02
87.167	0.00	0.04	0.034	o					0.02
87.250	0.00	0.04	0.034	o					0.02
87.333	0.00	0.04	0.034	o					0.02
87.417	0.00	0.04	0.034	o					0.02
87.500	0.00	0.04	0.033	o					0.02
87.583	0.00	0.04	0.033	o					0.02
87.667	0.00	0.04	0.033	o					0.02
87.750	0.00	0.04	0.033	o					0.02
87.833	0.00	0.04	0.032	o					0.02
87.917	0.00	0.04	0.032	o					0.02
88.000	0.00	0.04	0.032	o					0.02
88.083	0.00	0.04	0.032	o					0.02
88.167	0.00	0.04	0.031	o					0.02
88.250	0.00	0.04	0.031	o					0.02
88.333	0.00	0.03	0.031	o					0.02
88.417	0.00	0.03	0.031	o					0.02
88.500	0.00	0.03	0.030	o					0.02
88.583	0.00	0.03	0.030	o					0.02

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## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.03	0.030	o					0.02
88.750	0.00	0.03	0.030	o					0.02
88.833	0.00	0.03	0.029	o					0.02
88.917	0.00	0.03	0.029	o					0.02
89.000	0.00	0.03	0.029	o					0.02
89.083	0.00	0.03	0.029	o					0.02
89.167	0.00	0.03	0.029	o					0.02
89.250	0.00	0.03	0.028	o					0.02
89.333	0.00	0.03	0.028	o					0.02
89.417	0.00	0.03	0.028	o					0.02
89.500	0.00	0.03	0.028	o					0.02
89.583	0.00	0.03	0.027	o					0.02
89.667	0.00	0.03	0.027	o					0.02
89.750	0.00	0.03	0.027	o					0.02
89.833	0.00	0.03	0.027	o					0.02
89.917	0.00	0.03	0.027	o					0.02
90.000	0.00	0.03	0.026	o					0.02
90.083	0.00	0.03	0.026	o					0.02
90.167	0.00	0.03	0.026	o					0.02
90.250	0.00	0.03	0.026	o					0.02
90.333	0.00	0.03	0.026	o					0.02
90.417	0.00	0.03	0.025	o					0.02
90.500	0.00	0.03	0.025	o					0.01
90.583	0.00	0.03	0.025	o					0.01
90.667	0.00	0.03	0.025	o					0.01
90.750	0.00	0.03	0.025	o					0.01
90.833	0.00	0.03	0.024	o					0.01
90.917	0.00	0.03	0.024	o					0.01
91.000	0.00	0.03	0.024	o					0.01
91.083	0.00	0.03	0.024	o					0.01
91.167	0.00	0.03	0.024	o					0.01
91.250	0.00	0.03	0.024	o					0.01
91.333	0.00	0.03	0.023	o					0.01
91.417	0.00	0.03	0.023	o					0.01
91.500	0.00	0.03	0.023	o					0.01
91.583	0.00	0.03	0.023	o					0.01
91.667	0.00	0.03	0.023	o					0.01
91.750	0.00	0.03	0.022	o					0.01
91.833	0.00	0.03	0.022	o					0.01
91.917	0.00	0.02	0.022	o					0.01
92.000	0.00	0.02	0.022	o					0.01
92.083	0.00	0.02	0.022	o					0.01
92.167	0.00	0.02	0.022	o					0.01
92.250	0.00	0.02	0.021	o					0.01
92.333	0.00	0.02	0.021	o					0.01
92.417	0.00	0.02	0.021	o					0.01
92.500	0.00	0.02	0.021	o					0.01
92.583	0.00	0.02	0.021	o					0.01
92.667	0.00	0.02	0.021	o					0.01
92.750	0.00	0.02	0.020	o					0.01
92.833	0.00	0.02	0.020	o					0.01
92.917	0.00	0.02	0.020	o					0.01
93.000	0.00	0.02	0.020	o					0.01
93.083	0.00	0.02	0.020	o					0.01
93.167	0.00	0.02	0.020	o					0.01
93.250	0.00	0.02	0.020	o					0.01
93.333	0.00	0.02	0.019	o					0.01
93.417	0.00	0.02	0.019	o					0.01
93.500	0.00	0.02	0.019	o					0.01
93.583	0.00	0.02	0.019	o					0.01
93.667	0.00	0.02	0.019	o					0.01
93.750	0.00	0.02	0.019	o					0.01
93.833	0.00	0.02	0.018	o					0.01



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## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.02	0.018	o					0.01
94.000	0.00	0.02	0.018	o					0.01
94.083	0.00	0.02	0.018	o					0.01
94.167	0.00	0.02	0.018	o					0.01
94.250	0.00	0.02	0.018	o					0.01
94.333	0.00	0.02	0.018	o					0.01
94.417	0.00	0.02	0.017	o					0.01
94.500	0.00	0.02	0.017	o					0.01
94.583	0.00	0.02	0.017	o					0.01
94.667	0.00	0.02	0.017	o					0.01
94.750	0.00	0.02	0.017	o					0.01
94.833	0.00	0.02	0.017	o					0.01
94.917	0.00	0.02	0.017	o					0.01
95.000	0.00	0.02	0.017	o					0.01
95.083	0.00	0.02	0.016	o					0.01
95.167	0.00	0.02	0.016	o					0.01
95.250	0.00	0.02	0.016	o					0.01
95.333	0.00	0.02	0.016	o					0.01
95.417	0.00	0.02	0.016	o					0.01
95.500	0.00	0.02	0.016	o					0.01
95.583	0.00	0.02	0.016	o					0.01
95.667	0.00	0.02	0.016	o					0.01
95.750	0.00	0.02	0.015	o					0.01
95.833	0.00	0.02	0.015	o					0.01
95.917	0.00	0.02	0.015	o					0.01
96.000	0.00	0.02	0.015	o					0.01
96.083	0.00	0.02	0.015	o					0.01
96.167	0.00	0.02	0.015	o					0.01
96.250	0.00	0.02	0.015	o					0.01
96.333	0.00	0.02	0.015	o					0.01
96.417	0.00	0.02	0.015	o					0.01
96.500	0.00	0.02	0.014	o					0.01
96.583	0.00	0.02	0.014	o					0.01
96.667	0.00	0.02	0.014	o					0.01
96.750	0.00	0.02	0.014	o					0.01
96.833	0.00	0.02	0.014	o					0.01
96.917	0.00	0.02	0.014	o					0.01
97.000	0.00	0.02	0.014	o					0.01
97.083	0.00	0.02	0.014	o					0.01
97.167	0.00	0.02	0.014	o					0.01
97.250	0.00	0.02	0.013	o					0.01
97.333	0.00	0.02	0.013	o					0.01
97.417	0.00	0.01	0.013	o					0.01
97.500	0.00	0.01	0.013	o					0.01
97.583	0.00	0.01	0.013	o					0.01
97.667	0.00	0.01	0.013	o					0.01
97.750	0.00	0.01	0.013	o					0.01
97.833	0.00	0.01	0.013	o					0.01
97.917	0.00	0.01	0.013	o					0.01
98.000	0.00	0.01	0.013	o					0.01
98.083	0.00	0.01	0.012	o					0.01
98.167	0.00	0.01	0.012	o					0.01
98.250	0.00	0.01	0.012	o					0.01
98.333	0.00	0.01	0.012	o					0.01
98.417	0.00	0.01	0.012	o					0.01
98.500	0.00	0.01	0.012	o					0.01
98.583	0.00	0.01	0.012	o					0.01
98.667	0.00	0.01	0.012	o					0.01
98.750	0.00	0.01	0.012	o					0.01
98.833	0.00	0.01	0.012	o					0.01
98.917	0.00	0.01	0.011	o					0.01
99.000	0.00	0.01	0.011	o					0.01
99.083	0.00	0.01	0.011	o					0.01

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## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.01	0.011	o					0.01
99.250	0.00	0.01	0.011	o					0.01
99.333	0.00	0.01	0.011	o					0.01
99.417	0.00	0.01	0.011	o					0.01
99.500	0.00	0.01	0.011	o					0.01
99.583	0.00	0.01	0.011	o					0.01
99.667	0.00	0.01	0.011	o					0.01
99.750	0.00	0.01	0.011	o					0.01
99.833	0.00	0.01	0.011	o					0.01
99.917	0.00	0.01	0.010	o					0.01
100.000	0.00	0.01	0.010	o					0.01
100.083	0.00	0.01	0.010	o					0.01
100.167	0.00	0.01	0.010	o					0.01
100.250	0.00	0.01	0.010	o					0.01
100.333	0.00	0.01	0.010	o					0.01
100.417	0.00	0.01	0.010	o					0.01
100.500	0.00	0.01	0.010	o					0.01
100.583	0.00	0.01	0.010	o					0.01
100.667	0.00	0.01	0.010	o					0.01
100.750	0.00	0.01	0.010	o					0.01
100.833	0.00	0.01	0.010	o					0.01
100.917	0.00	0.01	0.010	o					0.01
101.000	0.00	0.01	0.009	o					0.01
101.083	0.00	0.01	0.009	o					0.01
101.167	0.00	0.01	0.009	o					0.01
101.250	0.00	0.01	0.009	o					0.01
101.333	0.00	0.01	0.009	o					0.01
101.417	0.00	0.01	0.009	o					0.01
101.500	0.00	0.01	0.009	o					0.01
101.583	0.00	0.01	0.009	o					0.01
101.667	0.00	0.01	0.009	o					0.01
101.750	0.00	0.01	0.009	o					0.01
101.833	0.00	0.01	0.009	o					0.01
101.917	0.00	0.01	0.009	o					0.01
102.000	0.00	0.01	0.009	o					0.01
102.083	0.00	0.01	0.009	o					0.01
102.167	0.00	0.01	0.008	o					0.01
102.250	0.00	0.01	0.008	o					0.00
102.333	0.00	0.01	0.008	o					0.00
102.417	0.00	0.01	0.008	o					0.00
102.500	0.00	0.01	0.008	o					0.00
102.583	0.00	0.01	0.008	o					0.00
102.667	0.00	0.01	0.008	o					0.00
102.750	0.00	0.01	0.008	o					0.00
102.833	0.00	0.01	0.008	o					0.00
102.917	0.00	0.01	0.008	o					0.00
103.000	0.00	0.01	0.008	o					0.00
103.083	0.00	0.01	0.008	o					0.00
103.167	0.00	0.01	0.008	o					0.00
103.250	0.00	0.01	0.008	o					0.00
103.333	0.00	0.01	0.008	o					0.00
103.417	0.00	0.01	0.008	o					0.00
103.500	0.00	0.01	0.008	o					0.00
103.583	0.00	0.01	0.007	o					0.00
103.667	0.00	0.01	0.007	o					0.00
103.750	0.00	0.01	0.007	o					0.00
103.833	0.00	0.01	0.007	o					0.00
103.917	0.00	0.01	0.007	o					0.00
104.000	0.00	0.01	0.007	o					0.00
104.083	0.00	0.01	0.007	o					0.00
104.167	0.00	0.01	0.007	o					0.00
104.250	0.00	0.01	0.007	o					0.00
104.333	0.00	0.01	0.007	o					0.00

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

104.417	0.00	0.01	0.007	o					0.00
104.500	0.00	0.01	0.007	o					0.00
104.583	0.00	0.01	0.007	o					0.00
104.667	0.00	0.01	0.007	o					0.00
104.750	0.00	0.01	0.007	o					0.00
104.833	0.00	0.01	0.007	o					0.00
104.917	0.00	0.01	0.007	o					0.00
105.000	0.00	0.01	0.007	o					0.00
105.083	0.00	0.01	0.006	o					0.00
105.167	0.00	0.01	0.006	o					0.00
105.250	0.00	0.01	0.006	o					0.00
105.333	0.00	0.01	0.006	o					0.00
105.417	0.00	0.01	0.006	o					0.00
105.500	0.00	0.01	0.006	o					0.00
105.583	0.00	0.01	0.006	o					0.00
105.667	0.00	0.01	0.006	o					0.00
105.750	0.00	0.01	0.006	o					0.00
105.833	0.00	0.01	0.006	o					0.00
105.917	0.00	0.01	0.006	o					0.00
106.000	0.00	0.01	0.006	o					0.00
106.083	0.00	0.01	0.006	o					0.00
106.167	0.00	0.01	0.006	o					0.00
106.250	0.00	0.01	0.006	o					0.00
106.333	0.00	0.01	0.006	o					0.00
106.417	0.00	0.01	0.006	o					0.00
106.500	0.00	0.01	0.006	o					0.00
106.583	0.00	0.01	0.006	o					0.00
106.667	0.00	0.01	0.006	o					0.00
106.750	0.00	0.01	0.006	o					0.00
106.833	0.00	0.01	0.005	o					0.00
106.917	0.00	0.01	0.005	o					0.00
107.000	0.00	0.01	0.005	o					0.00
107.083	0.00	0.01	0.005	o					0.00
107.167	0.00	0.01	0.005	o					0.00
107.250	0.00	0.01	0.005	o					0.00
107.333	0.00	0.01	0.005	o					0.00
107.417	0.00	0.01	0.005	o					0.00
107.500	0.00	0.01	0.005	o					0.00
107.583	0.00	0.01	0.005	o					0.00
107.667	0.00	0.01	0.005	o					0.00
107.750	0.00	0.01	0.005	o					0.00
107.833	0.00	0.01	0.005	o					0.00
107.917	0.00	0.01	0.005	o					0.00
108.000	0.00	0.01	0.005	o					0.00
108.083	0.00	0.01	0.005	o					0.00
108.167	0.00	0.01	0.005	o					0.00
108.250	0.00	0.01	0.005	o					0.00
108.333	0.00	0.01	0.005	o					0.00
108.417	0.00	0.01	0.005	o					0.00
108.500	0.00	0.01	0.005	o					0.00
108.583	0.00	0.01	0.005	o					0.00
108.667	0.00	0.01	0.005	o					0.00
108.750	0.00	0.01	0.005	o					0.00
108.833	0.00	0.01	0.005	o					0.00
108.917	0.00	0.01	0.005	o					0.00
109.000	0.00	0.01	0.004	o					0.00
109.083	0.00	0.01	0.004	o					0.00
109.167	0.00	0.00	0.004	o					0.00
109.250	0.00	0.00	0.004	o					0.00
109.333	0.00	0.00	0.004	o					0.00
109.417	0.00	0.00	0.004	o					0.00
109.500	0.00	0.00	0.004	o					0.00
109.583	0.00	0.00	0.004	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.00	0.004	o					0.00
109.750	0.00	0.00	0.004	o					0.00
109.833	0.00	0.00	0.004	o					0.00
109.917	0.00	0.00	0.004	o					0.00
110.000	0.00	0.00	0.004	o					0.00
110.083	0.00	0.00	0.004	o					0.00
110.167	0.00	0.00	0.004	o					0.00
110.250	0.00	0.00	0.004	o					0.00
110.333	0.00	0.00	0.004	o					0.00
110.417	0.00	0.00	0.004	o					0.00
110.500	0.00	0.00	0.004	o					0.00
110.583	0.00	0.00	0.004	o					0.00
110.667	0.00	0.00	0.004	o					0.00
110.750	0.00	0.00	0.004	o					0.00
110.833	0.00	0.00	0.004	o					0.00
110.917	0.00	0.00	0.004	o					0.00
111.000	0.00	0.00	0.004	o					0.00
111.083	0.00	0.00	0.004	o					0.00
111.167	0.00	0.00	0.004	o					0.00
111.250	0.00	0.00	0.004	o					0.00
111.333	0.00	0.00	0.004	o					0.00
111.417	0.00	0.00	0.004	o					0.00
111.500	0.00	0.00	0.004	o					0.00
111.583	0.00	0.00	0.004	o					0.00
111.667	0.00	0.00	0.004	o					0.00
111.750	0.00	0.00	0.003	o					0.00
111.833	0.00	0.00	0.003	o					0.00
111.917	0.00	0.00	0.003	o					0.00
112.000	0.00	0.00	0.003	o					0.00
112.083	0.00	0.00	0.003	o					0.00
112.167	0.00	0.00	0.003	o					0.00
112.250	0.00	0.00	0.003	o					0.00
112.333	0.00	0.00	0.003	o					0.00
112.417	0.00	0.00	0.003	o					0.00
112.500	0.00	0.00	0.003	o					0.00
112.583	0.00	0.00	0.003	o					0.00
112.667	0.00	0.00	0.003	o					0.00
112.750	0.00	0.00	0.003	o					0.00
112.833	0.00	0.00	0.003	o					0.00
112.917	0.00	0.00	0.003	o					0.00
113.000	0.00	0.00	0.003	o					0.00
113.083	0.00	0.00	0.003	o					0.00
113.167	0.00	0.00	0.003	o					0.00
113.250	0.00	0.00	0.003	o					0.00
113.333	0.00	0.00	0.003	o					0.00
113.417	0.00	0.00	0.003	o					0.00
113.500	0.00	0.00	0.003	o					0.00
113.583	0.00	0.00	0.003	o					0.00
113.667	0.00	0.00	0.003	o					0.00
113.750	0.00	0.00	0.003	o					0.00
113.833	0.00	0.00	0.003	o					0.00
113.917	0.00	0.00	0.003	o					0.00
114.000	0.00	0.00	0.003	o					0.00
114.083	0.00	0.00	0.003	o					0.00
114.167	0.00	0.00	0.003	o					0.00
114.250	0.00	0.00	0.003	o					0.00
114.333	0.00	0.00	0.003	o					0.00
114.417	0.00	0.00	0.003	o					0.00
114.500	0.00	0.00	0.003	o					0.00
114.583	0.00	0.00	0.003	o					0.00
114.667	0.00	0.00	0.003	o					0.00
114.750	0.00	0.00	0.003	o					0.00
114.833	0.00	0.00	0.003	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

114.917	0.00	0.00	0.003	o					0.00
115.000	0.00	0.00	0.003	o					0.00
115.083	0.00	0.00	0.003	o					0.00
115.167	0.00	0.00	0.003	o					0.00
115.250	0.00	0.00	0.003	o					0.00
115.333	0.00	0.00	0.002	o					0.00
115.417	0.00	0.00	0.002	o					0.00
115.500	0.00	0.00	0.002	o					0.00
115.583	0.00	0.00	0.002	o					0.00
115.667	0.00	0.00	0.002	o					0.00
115.750	0.00	0.00	0.002	o					0.00
115.833	0.00	0.00	0.002	o					0.00
115.917	0.00	0.00	0.002	o					0.00
116.000	0.00	0.00	0.002	o					0.00
116.083	0.00	0.00	0.002	o					0.00
116.167	0.00	0.00	0.002	o					0.00
116.250	0.00	0.00	0.002	o					0.00
116.333	0.00	0.00	0.002	o					0.00
116.417	0.00	0.00	0.002	o					0.00
116.500	0.00	0.00	0.002	o					0.00
116.583	0.00	0.00	0.002	o					0.00
116.667	0.00	0.00	0.002	o					0.00
116.750	0.00	0.00	0.002	o					0.00
116.833	0.00	0.00	0.002	o					0.00
116.917	0.00	0.00	0.002	o					0.00
117.000	0.00	0.00	0.002	o					0.00
117.083	0.00	0.00	0.002	o					0.00
117.167	0.00	0.00	0.002	o					0.00
117.250	0.00	0.00	0.002	o					0.00
117.333	0.00	0.00	0.002	o					0.00
117.417	0.00	0.00	0.002	o					0.00
117.500	0.00	0.00	0.002	o					0.00
117.583	0.00	0.00	0.002	o					0.00
117.667	0.00	0.00	0.002	o					0.00
117.750	0.00	0.00	0.002	o					0.00
117.833	0.00	0.00	0.002	o					0.00
117.917	0.00	0.00	0.002	o					0.00
118.000	0.00	0.00	0.002	o					0.00
118.083	0.00	0.00	0.002	o					0.00
118.167	0.00	0.00	0.002	o					0.00
118.250	0.00	0.00	0.002	o					0.00
118.333	0.00	0.00	0.002	o					0.00
118.417	0.00	0.00	0.002	o					0.00
118.500	0.00	0.00	0.002	o					0.00
118.583	0.00	0.00	0.002	o					0.00
118.667	0.00	0.00	0.002	o					0.00
118.750	0.00	0.00	0.002	o					0.00
118.833	0.00	0.00	0.002	o					0.00
118.917	0.00	0.00	0.002	o					0.00
119.000	0.00	0.00	0.002	o					0.00
119.083	0.00	0.00	0.002	o					0.00
119.167	0.00	0.00	0.002	o					0.00
119.250	0.00	0.00	0.002	o					0.00
119.333	0.00	0.00	0.002	o					0.00
119.417	0.00	0.00	0.002	o					0.00
119.500	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

\*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*

Number of intervals = 1434

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

Time interval = 5.0 (Min.)  
Maximum/Peak flow rate = 43.548 (CFS)  
Total volume = 15.862 (Ac.Ft)  
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

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KELLER CROSSING
Drainage Area C = 91.5 Ac
Detention Basin Routing Basin C
100-year 6-hour storm
-----
```

Program License Serial Number 4029

\*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

```

From study/file name: kxprh6100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 78
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 157.186 (CFS)
Total volume = 20.422 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** RETARDING BASIN ROUTING ****

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User entry of depth-outflow-storage data

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-----
Total number of inflow hydrograph intervals = 78
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00 (Ft.)
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-----
Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)
-----
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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 Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	39.3	78.59	117.89	157.19	Depth (Ft.)
0.083	2.66	0.01	0.009	O					0.01
0.167	8.57	0.05	0.048	OI					0.03
0.250	11.25	0.13	0.115	O I					0.07
0.333	12.26	0.22	0.195	O I					0.12
0.417	12.79	0.32	0.279	O I					0.17
0.500	13.95	0.42	0.369	O I					0.22
0.583	15.89	0.53	0.468	O I					0.28
0.667	16.40	0.65	0.576	O I					0.34
0.750	16.62	0.77	0.684	O I					0.40
0.833	16.74	0.90	0.793	O I					0.47
0.917	16.81	1.02	0.902	O I					0.53
1.000	17.72	1.14	1.014	O I					0.60
1.083	19.43	1.28	1.133	O I					0.67
1.167	19.91	1.42	1.260	O I					0.74
1.250	20.12	1.57	1.387	O I					0.82
1.333	20.25	1.71	1.515	O I					0.89
1.417	20.32	1.85	1.642	O I					0.97
1.500	20.37	1.93	1.769	O I					1.04
1.583	20.37	1.95	1.896	O I					1.10
1.667	20.37	1.98	2.023	O I					1.16
1.750	20.37	2.00	2.150	O I					1.22
1.833	20.37	2.03	2.276	O I					1.28
1.917	20.37	2.05	2.402	O I					1.34
2.000	21.23	2.08	2.531	O I					1.40
2.083	22.08	2.11	2.666	O I					1.46
2.167	21.71	2.14	2.802	O I					1.53
2.250	23.16	2.16	2.942	O I					1.59
2.333	23.54	2.19	3.088	O I					1.66
2.417	23.70	2.22	3.235	O I					1.73
2.500	23.81	2.25	3.384	O I					1.80
2.583	23.82	2.28	3.532	O I					1.87
2.667	23.88	2.31	3.680	O I					1.94
2.750	24.74	2.34	3.832	O I					2.01
2.833	26.45	2.37	3.992	O I					2.07
2.917	26.93	2.39	4.159	O I					2.13
3.000	27.14	2.41	4.329	O I					2.19
3.083	27.26	2.43	4.500	O I					2.25
3.167	28.19	2.46	4.674	O I					2.32
3.250	29.96	2.48	4.857	O I					2.39
3.333	30.43	2.51	5.048	O I					2.46
3.417	31.51	2.53	5.244	O I					2.53
3.500	34.20	2.56	5.452	O I					2.60
3.583	37.31	2.59	5.681	O I					2.69
3.667	39.77	2.63	5.928	O I					2.78
3.750	41.44	2.66	6.190	O I					2.87
3.833	43.56	2.70	6.464	O I					2.97
3.917	45.14	2.73	6.751	O I					3.07
4.000	47.20	2.76	7.050	O I					3.16
4.083	48.71	2.79	7.361	O I					3.26
4.167	51.57	2.83	7.687	O I					3.36
4.250	54.79	2.86	8.034	O I					3.47
4.333	58.12	2.90	8.403	O I					3.58
4.417	61.56	2.94	8.795	O I					3.70
4.500	64.15	2.98	9.207	O I					3.83
4.583	65.95	3.02	9.634	O I					3.97



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

4.667	68.98	5.84	10.069	O		I				4.09
4.750	72.27	9.55	10.502	O		I				4.22
4.833	74.80	13.22	10.930	O		I				4.34
4.917	76.53	16.80	11.348	O		I				4.45
5.000	79.51	20.31	11.757	O		I				4.57
5.083	86.23	23.90	12.176	O		I				4.69
5.167	99.90	27.86	12.638	O		I				4.82
5.250	113.80	32.39	13.167	O		I				4.97
5.333	125.16	41.78	13.734	O		I				5.15
5.417	137.82	52.49	14.315	O		I				5.35
5.500	157.19	63.83	14.930	O		I				5.55
5.583	144.85	74.24	15.495	O		I				5.74
5.667	79.15	78.75	15.740	O		I				5.82
5.750	44.81	76.75	15.631	I		O				5.79
5.833	27.94	71.93	15.370	I		O				5.70
5.917	18.54	66.12	15.054	I		O				5.60
6.000	11.59	60.02	14.724	I		O				5.48
6.083	5.56	53.88	14.391	I		O				5.37
6.167	2.02	47.90	14.066	I		O				5.26
6.250	0.93	42.36	13.765	I		O				5.16
6.333	0.46	37.39	13.496	I		O				5.07
6.417	0.19	33.15	13.255	I		O				4.99
6.500	0.07	31.26	13.034	I		O				4.93
6.583	0.00	29.47	12.825	I		O				4.87
6.667	0.00	27.78	12.628	I		O				4.82
6.750	0.00	26.18	12.442	I		O				4.76
6.833	0.00	24.68	12.267	I		O				4.71
6.917	0.00	23.27	12.102	I		O				4.67
7.000	0.00	21.93	11.946	I		O				4.62
7.083	0.00	20.68	11.800	I		O				4.58
7.167	0.00	19.49	11.661	I		O				4.54
7.250	0.00	18.37	11.531	I		O				4.51
7.333	0.00	17.32	11.408	I		O				4.47
7.417	0.00	16.33	11.292	I		O				4.44
7.500	0.00	15.39	11.183	I		O				4.41
7.583	0.00	14.51	11.080	I		O				4.38
7.667	0.00	13.68	10.983	I		O				4.35
7.750	0.00	12.89	10.892	I		O				4.33
7.833	0.00	12.15	10.805	I		O				4.30
7.917	0.00	11.46	10.724	I		O				4.28
8.000	0.00	10.80	10.647	I		O				4.26
8.083	0.00	10.18	10.575	I		O				4.24
8.167	0.00	9.60	10.507	IO						4.22
8.250	0.00	9.05	10.443	IO						4.20
8.333	0.00	8.53	10.382	IO						4.18
8.417	0.00	8.04	10.325	IO						4.17
8.500	0.00	7.58	10.272	IO						4.15
8.583	0.00	7.14	10.221	IO						4.14
8.667	0.00	6.73	10.173	IO						4.12
8.750	0.00	6.35	10.128	IO						4.11
8.833	0.00	5.98	10.086	IO						4.10
8.917	0.00	5.64	10.046	IO						4.09
9.000	0.00	5.32	10.008	IO						4.08
9.083	0.00	5.01	9.972	IO						4.07
9.167	0.00	4.72	9.939	O						4.06
9.250	0.00	4.45	9.907	O						4.05
9.333	0.00	4.20	9.877	O						4.04
9.417	0.00	3.96	9.849	O						4.03
9.500	0.00	3.73	9.823	O						4.02
9.583	0.00	3.52	9.798	O						4.02
9.667	0.00	3.32	9.774	O						4.01
9.750	0.00	3.13	9.752	O						4.00
9.833	0.00	3.03	9.731	O						4.00

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

9.917	0.00	3.03	9.710	0					3.99
10.000	0.00	3.02	9.689	0					3.98
10.083	0.00	3.02	9.668	0					3.98
10.167	0.00	3.02	9.648	0					3.97
10.250	0.00	3.02	9.627	0					3.96
10.333	0.00	3.02	9.606	0					3.96
10.417	0.00	3.01	9.585	0					3.95
10.500	0.00	3.01	9.564	0					3.94
10.583	0.00	3.01	9.544	0					3.94
10.667	0.00	3.01	9.523	0					3.93
10.750	0.00	3.01	9.502	0					3.93
10.833	0.00	3.00	9.482	0					3.92
10.917	0.00	3.00	9.461	0					3.91
11.000	0.00	3.00	9.440	0					3.91
11.083	0.00	3.00	9.420	0					3.90
11.167	0.00	3.00	9.399	0					3.89
11.250	0.00	2.99	9.378	0					3.89
11.333	0.00	2.99	9.358	0					3.88
11.417	0.00	2.99	9.337	0					3.87
11.500	0.00	2.99	9.317	0					3.87
11.583	0.00	2.99	9.296	0					3.86
11.667	0.00	2.98	9.275	0					3.85
11.750	0.00	2.98	9.255	0					3.85
11.833	0.00	2.98	9.234	0					3.84
11.917	0.00	2.98	9.214	0					3.84
12.000	0.00	2.98	9.193	0					3.83
12.083	0.00	2.97	9.173	0					3.82
12.167	0.00	2.97	9.152	0					3.82
12.250	0.00	2.97	9.132	0					3.81
12.333	0.00	2.97	9.111	0					3.80
12.417	0.00	2.97	9.091	0					3.80
12.500	0.00	2.96	9.071	0					3.79
12.583	0.00	2.96	9.050	0					3.78
12.667	0.00	2.96	9.030	0					3.78
12.750	0.00	2.96	9.009	0					3.77
12.833	0.00	2.95	8.989	0					3.77
12.917	0.00	2.95	8.969	0					3.76
13.000	0.00	2.95	8.948	0					3.75
13.083	0.00	2.95	8.928	0					3.75
13.167	0.00	2.95	8.908	0					3.74
13.250	0.00	2.94	8.888	0					3.73
13.333	0.00	2.94	8.867	0					3.73
13.417	0.00	2.94	8.847	0					3.72
13.500	0.00	2.94	8.827	0					3.71
13.583	0.00	2.94	8.807	0					3.71
13.667	0.00	2.93	8.786	0					3.70
13.750	0.00	2.93	8.766	0					3.70
13.833	0.00	2.93	8.746	0					3.69
13.917	0.00	2.93	8.726	0					3.68
14.000	0.00	2.93	8.706	0					3.68
14.083	0.00	2.92	8.685	0					3.67
14.167	0.00	2.92	8.665	0					3.66
14.250	0.00	2.92	8.645	0					3.66
14.333	0.00	2.92	8.625	0					3.65
14.417	0.00	2.92	8.605	0					3.65
14.500	0.00	2.91	8.585	0					3.64
14.583	0.00	2.91	8.565	0					3.63
14.667	0.00	2.91	8.545	0					3.63
14.750	0.00	2.91	8.525	0					3.62
14.833	0.00	2.91	8.505	0					3.61
14.917	0.00	2.90	8.485	0					3.61
15.000	0.00	2.90	8.465	0					3.60
15.083	0.00	2.90	8.445	0					3.60

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

15.167	0.00	2.90	8.425	0					3.59
15.250	0.00	2.90	8.405	0					3.58
15.333	0.00	2.89	8.385	0					3.58
15.417	0.00	2.89	8.365	0					3.57
15.500	0.00	2.89	8.345	0					3.56
15.583	0.00	2.89	8.325	0					3.56
15.667	0.00	2.89	8.305	0					3.55
15.750	0.00	2.88	8.285	0					3.55
15.833	0.00	2.88	8.265	0					3.54
15.917	0.00	2.88	8.246	0					3.53
16.000	0.00	2.88	8.226	0					3.53
16.083	0.00	2.88	8.206	0					3.52
16.167	0.00	2.87	8.186	0					3.52
16.250	0.00	2.87	8.166	0					3.51
16.333	0.00	2.87	8.147	0					3.50
16.417	0.00	2.87	8.127	0					3.50
16.500	0.00	2.87	8.107	0					3.49
16.583	0.00	2.86	8.087	0					3.48
16.667	0.00	2.86	8.068	0					3.48
16.750	0.00	2.86	8.048	0					3.47
16.833	0.00	2.86	8.028	0					3.47
16.917	0.00	2.86	8.009	0					3.46
17.000	0.00	2.86	7.989	0					3.45
17.083	0.00	2.85	7.969	0					3.45
17.167	0.00	2.85	7.950	0					3.44
17.250	0.00	2.85	7.930	0					3.44
17.333	0.00	2.85	7.910	0					3.43
17.417	0.00	2.85	7.891	0					3.42
17.500	0.00	2.84	7.871	0					3.42
17.583	0.00	2.84	7.852	0					3.41
17.667	0.00	2.84	7.832	0					3.40
17.750	0.00	2.84	7.812	0					3.40
17.833	0.00	2.84	7.793	0					3.39
17.917	0.00	2.83	7.773	0					3.39
18.000	0.00	2.83	7.754	0					3.38
18.083	0.00	2.83	7.734	0					3.37
18.167	0.00	2.83	7.715	0					3.37
18.250	0.00	2.83	7.695	0					3.36
18.333	0.00	2.82	7.676	0					3.36
18.417	0.00	2.82	7.657	0					3.35
18.500	0.00	2.82	7.637	0					3.34
18.583	0.00	2.82	7.618	0					3.34
18.667	0.00	2.82	7.598	0					3.33
18.750	0.00	2.81	7.579	0					3.33
18.833	0.00	2.81	7.560	0					3.32
18.917	0.00	2.81	7.540	0					3.31
19.000	0.00	2.81	7.521	0					3.31
19.083	0.00	2.81	7.501	0					3.30
19.167	0.00	2.80	7.482	0					3.30
19.250	0.00	2.80	7.463	0					3.29
19.333	0.00	2.80	7.444	0					3.28
19.417	0.00	2.80	7.424	0					3.28
19.500	0.00	2.80	7.405	0					3.27
19.583	0.00	2.79	7.386	0					3.27
19.667	0.00	2.79	7.366	0					3.26
19.750	0.00	2.79	7.347	0					3.25
19.833	0.00	2.79	7.328	0					3.25
19.917	0.00	2.79	7.309	0					3.24
20.000	0.00	2.79	7.290	0					3.24
20.083	0.00	2.78	7.270	0					3.23
20.167	0.00	2.78	7.251	0					3.22
20.250	0.00	2.78	7.232	0					3.22
20.333	0.00	2.78	7.213	0					3.21

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

20.417	0.00	2.78	7.194	0					3.21
20.500	0.00	2.77	7.175	0					3.20
20.583	0.00	2.77	7.156	0					3.19
20.667	0.00	2.77	7.137	0					3.19
20.750	0.00	2.77	7.118	0					3.18
20.833	0.00	2.77	7.098	0					3.18
20.917	0.00	2.76	7.079	0					3.17
21.000	0.00	2.76	7.060	0					3.16
21.083	0.00	2.76	7.041	0					3.16
21.167	0.00	2.76	7.022	0					3.15
21.250	0.00	2.76	7.003	0					3.15
21.333	0.00	2.75	6.984	0					3.14
21.417	0.00	2.75	6.965	0					3.13
21.500	0.00	2.75	6.946	0					3.13
21.583	0.00	2.75	6.928	0					3.12
21.667	0.00	2.75	6.909	0					3.12
21.750	0.00	2.75	6.890	0					3.11
21.833	0.00	2.74	6.871	0					3.11
21.917	0.00	2.74	6.852	0					3.10
22.000	0.00	2.74	6.833	0					3.09
22.083	0.00	2.74	6.814	0					3.09
22.167	0.00	2.74	6.795	0					3.08
22.250	0.00	2.73	6.776	0					3.08
22.333	0.00	2.73	6.758	0					3.07
22.417	0.00	2.73	6.739	0					3.06
22.500	0.00	2.73	6.720	0					3.06
22.583	0.00	2.73	6.701	0					3.05
22.667	0.00	2.72	6.682	0					3.05
22.750	0.00	2.72	6.664	0					3.04
22.833	0.00	2.72	6.645	0					3.03
22.917	0.00	2.72	6.626	0					3.03
23.000	0.00	2.72	6.608	0					3.02
23.083	0.00	2.72	6.589	0					3.02
23.167	0.00	2.71	6.570	0					3.01
23.250	0.00	2.71	6.551	0					3.01
23.333	0.00	2.71	6.533	0					3.00
23.417	0.00	2.71	6.514	0					2.99
23.500	0.00	2.70	6.495	0					2.99
23.583	0.00	2.70	6.477	0					2.98
23.667	0.00	2.70	6.458	0					2.97
23.750	0.00	2.70	6.440	0					2.97
23.833	0.00	2.69	6.421	0					2.96
23.917	0.00	2.69	6.403	0					2.95
24.000	0.00	2.69	6.384	0					2.95
24.083	0.00	2.69	6.366	0					2.94
24.167	0.00	2.68	6.347	0					2.93
24.250	0.00	2.68	6.329	0					2.92
24.333	0.00	2.68	6.310	0					2.92
24.417	0.00	2.68	6.292	0					2.91
24.500	0.00	2.67	6.273	0					2.90
24.583	0.00	2.67	6.255	0					2.90
24.667	0.00	2.67	6.236	0					2.89
24.750	0.00	2.67	6.218	0					2.88
24.833	0.00	2.66	6.200	0					2.88
24.917	0.00	2.66	6.181	0					2.87
25.000	0.00	2.66	6.163	0					2.86
25.083	0.00	2.66	6.145	0					2.86
25.167	0.00	2.65	6.126	0					2.85
25.250	0.00	2.65	6.108	0					2.84
25.333	0.00	2.65	6.090	0					2.84
25.417	0.00	2.65	6.072	0					2.83
25.500	0.00	2.64	6.053	0					2.82
25.583	0.00	2.64	6.035	0					2.82

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

25.667	0.00	2.64	6.017	0					2.81
25.750	0.00	2.64	5.999	0					2.80
25.833	0.00	2.63	5.981	0					2.80
25.917	0.00	2.63	5.963	0					2.79
26.000	0.00	2.63	5.944	0					2.78
26.083	0.00	2.63	5.926	0					2.78
26.167	0.00	2.63	5.908	0					2.77
26.250	0.00	2.62	5.890	0					2.76
26.333	0.00	2.62	5.872	0					2.76
26.417	0.00	2.62	5.854	0					2.75
26.500	0.00	2.62	5.836	0					2.74
26.583	0.00	2.61	5.818	0					2.74
26.667	0.00	2.61	5.800	0					2.73
26.750	0.00	2.61	5.782	0					2.72
26.833	0.00	2.61	5.764	0					2.72
26.917	0.00	2.60	5.746	0					2.71
27.000	0.00	2.60	5.728	0					2.70
27.083	0.00	2.60	5.710	0					2.70
27.167	0.00	2.60	5.692	0					2.69
27.250	0.00	2.59	5.675	0					2.68
27.333	0.00	2.59	5.657	0					2.68
27.417	0.00	2.59	5.639	0					2.67
27.500	0.00	2.59	5.621	0					2.67
27.583	0.00	2.58	5.603	0					2.66
27.667	0.00	2.58	5.585	0					2.65
27.750	0.00	2.58	5.568	0					2.65
27.833	0.00	2.58	5.550	0					2.64
27.917	0.00	2.57	5.532	0					2.63
28.000	0.00	2.57	5.515	0					2.63
28.083	0.00	2.57	5.497	0					2.62
28.167	0.00	2.57	5.479	0					2.61
28.250	0.00	2.56	5.461	0					2.61
28.333	0.00	2.56	5.444	0					2.60
28.417	0.00	2.56	5.426	0					2.59
28.500	0.00	2.56	5.409	0					2.59
28.583	0.00	2.55	5.391	0					2.58
28.667	0.00	2.55	5.373	0					2.57
28.750	0.00	2.55	5.356	0					2.57
28.833	0.00	2.55	5.338	0					2.56
28.917	0.00	2.55	5.321	0					2.56
29.000	0.00	2.54	5.303	0					2.55
29.083	0.00	2.54	5.286	0					2.54
29.167	0.00	2.54	5.268	0					2.54
29.250	0.00	2.54	5.251	0					2.53
29.333	0.00	2.53	5.233	0					2.52
29.417	0.00	2.53	5.216	0					2.52
29.500	0.00	2.53	5.198	0					2.51
29.583	0.00	2.53	5.181	0					2.50
29.667	0.00	2.52	5.164	0					2.50
29.750	0.00	2.52	5.146	0					2.49
29.833	0.00	2.52	5.129	0					2.48
29.917	0.00	2.52	5.111	0					2.48
30.000	0.00	2.51	5.094	0					2.47
30.083	0.00	2.51	5.077	0					2.47
30.167	0.00	2.51	5.060	0					2.46
30.250	0.00	2.51	5.042	0					2.45
30.333	0.00	2.51	5.025	0					2.45
30.417	0.00	2.50	5.008	0					2.44
30.500	0.00	2.50	4.991	0					2.43
30.583	0.00	2.50	4.973	0					2.43
30.667	0.00	2.50	4.956	0					2.42
30.750	0.00	2.49	4.939	0					2.42
30.833	0.00	2.49	4.922	0					2.41

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

30.917	0.00	2.49	4.905	0					2.40
31.000	0.00	2.49	4.888	0					2.40
31.083	0.00	2.48	4.870	0					2.39
31.167	0.00	2.48	4.853	0					2.38
31.250	0.00	2.48	4.836	0					2.38
31.333	0.00	2.48	4.819	0					2.37
31.417	0.00	2.48	4.802	0					2.37
31.500	0.00	2.47	4.785	0					2.36
31.583	0.00	2.47	4.768	0					2.35
31.667	0.00	2.47	4.751	0					2.35
31.750	0.00	2.47	4.734	0					2.34
31.833	0.00	2.46	4.717	0					2.33
31.917	0.00	2.46	4.700	0					2.33
32.000	0.00	2.46	4.683	0					2.32
32.083	0.00	2.46	4.666	0					2.32
32.167	0.00	2.45	4.649	0					2.31
32.250	0.00	2.45	4.632	0					2.30
32.333	0.00	2.45	4.616	0					2.30
32.417	0.00	2.45	4.599	0					2.29
32.500	0.00	2.45	4.582	0					2.28
32.583	0.00	2.44	4.565	0					2.28
32.667	0.00	2.44	4.548	0					2.27
32.750	0.00	2.44	4.531	0					2.27
32.833	0.00	2.44	4.515	0					2.26
32.917	0.00	2.43	4.498	0					2.25
33.000	0.00	2.43	4.481	0					2.25
33.083	0.00	2.43	4.464	0					2.24
33.167	0.00	2.43	4.448	0					2.24
33.250	0.00	2.42	4.431	0					2.23
33.333	0.00	2.42	4.414	0					2.22
33.417	0.00	2.42	4.398	0					2.22
33.500	0.00	2.42	4.381	0					2.21
33.583	0.00	2.42	4.364	0					2.20
33.667	0.00	2.41	4.348	0					2.20
33.750	0.00	2.41	4.331	0					2.19
33.833	0.00	2.41	4.314	0					2.19
33.917	0.00	2.41	4.298	0					2.18
34.000	0.00	2.40	4.281	0					2.17
34.083	0.00	2.40	4.265	0					2.17
34.167	0.00	2.40	4.248	0					2.16
34.250	0.00	2.40	4.232	0					2.16
34.333	0.00	2.40	4.215	0					2.15
34.417	0.00	2.39	4.199	0					2.14
34.500	0.00	2.39	4.182	0					2.14
34.583	0.00	2.39	4.166	0					2.13
34.667	0.00	2.39	4.149	0					2.13
34.750	0.00	2.38	4.133	0					2.12
34.833	0.00	2.38	4.116	0					2.11
34.917	0.00	2.38	4.100	0					2.11
35.000	0.00	2.38	4.084	0					2.10
35.083	0.00	2.38	4.067	0					2.10
35.167	0.00	2.37	4.051	0					2.09
35.250	0.00	2.37	4.035	0					2.08
35.333	0.00	2.37	4.018	0					2.08
35.417	0.00	2.37	4.002	0					2.07
35.500	0.00	2.36	3.986	0					2.07
35.583	0.00	2.36	3.969	0					2.06
35.667	0.00	2.36	3.953	0					2.05
35.750	0.00	2.36	3.937	0					2.05
35.833	0.00	2.36	3.921	0					2.04
35.917	0.00	2.35	3.904	0					2.04
36.000	0.00	2.35	3.888	0					2.03
36.083	0.00	2.35	3.872	0					2.02

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

36.167	0.00	2.35	3.856	0					2.02
36.250	0.00	2.34	3.840	0					2.01
36.333	0.00	2.34	3.824	0					2.01
36.417	0.00	2.34	3.807	0					2.00
36.500	0.00	2.34	3.791	0					1.99
36.583	0.00	2.33	3.775	0					1.99
36.667	0.00	2.33	3.759	0					1.98
36.750	0.00	2.33	3.743	0					1.97
36.833	0.00	2.32	3.727	0					1.96
36.917	0.00	2.32	3.711	0					1.96
37.000	0.00	2.32	3.695	0					1.95
37.083	0.00	2.31	3.679	0					1.94
37.167	0.00	2.31	3.663	0					1.93
37.250	0.00	2.31	3.647	0					1.92
37.333	0.00	2.30	3.632	0					1.92
37.417	0.00	2.30	3.616	0					1.91
37.500	0.00	2.30	3.600	0					1.90
37.583	0.00	2.29	3.584	0					1.89
37.667	0.00	2.29	3.568	0					1.89
37.750	0.00	2.29	3.552	0					1.88
37.833	0.00	2.29	3.537	0					1.87
37.917	0.00	2.28	3.521	0					1.87
38.000	0.00	2.28	3.505	0					1.86
38.083	0.00	2.28	3.490	0					1.85
38.167	0.00	2.27	3.474	0					1.84
38.250	0.00	2.27	3.458	0					1.84
38.333	0.00	2.27	3.443	0					1.83
38.417	0.00	2.26	3.427	0					1.82
38.500	0.00	2.26	3.411	0					1.81
38.583	0.00	2.26	3.396	0					1.81
38.667	0.00	2.25	3.380	0					1.80
38.750	0.00	2.25	3.365	0					1.79
38.833	0.00	2.25	3.349	0					1.78
38.917	0.00	2.24	3.334	0					1.78
39.000	0.00	2.24	3.318	0					1.77
39.083	0.00	2.24	3.303	0					1.76
39.167	0.00	2.23	3.288	0					1.75
39.250	0.00	2.23	3.272	0					1.75
39.333	0.00	2.23	3.257	0					1.74
39.417	0.00	2.23	3.242	0					1.73
39.500	0.00	2.22	3.226	0					1.73
39.583	0.00	2.22	3.211	0					1.72
39.667	0.00	2.22	3.196	0					1.71
39.750	0.00	2.21	3.180	0					1.70
39.833	0.00	2.21	3.165	0					1.70
39.917	0.00	2.21	3.150	0					1.69
40.000	0.00	2.20	3.135	0					1.68
40.083	0.00	2.20	3.120	0					1.68
40.167	0.00	2.20	3.105	0					1.67
40.250	0.00	2.19	3.089	0					1.66
40.333	0.00	2.19	3.074	0					1.65
40.417	0.00	2.19	3.059	0					1.65
40.500	0.00	2.18	3.044	0					1.64
40.583	0.00	2.18	3.029	0					1.63
40.667	0.00	2.18	3.014	0					1.63
40.750	0.00	2.18	2.999	0					1.62
40.833	0.00	2.17	2.984	0					1.61
40.917	0.00	2.17	2.969	0					1.60
41.000	0.00	2.17	2.954	0					1.60
41.083	0.00	2.16	2.939	0					1.59
41.167	0.00	2.16	2.924	0					1.58
41.250	0.00	2.16	2.910	0					1.58
41.333	0.00	2.15	2.895	0					1.57

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	2.15	2.880	0					1.56
41.500	0.00	2.15	2.865	0					1.55
41.583	0.00	2.15	2.850	0					1.55
41.667	0.00	2.14	2.836	0					1.54
41.750	0.00	2.14	2.821	0					1.53
41.833	0.00	2.14	2.806	0					1.53
41.917	0.00	2.13	2.791	0					1.52
42.000	0.00	2.13	2.777	0					1.51
42.083	0.00	2.13	2.762	0					1.51
42.167	0.00	2.12	2.747	0					1.50
42.250	0.00	2.12	2.733	0					1.49
42.333	0.00	2.12	2.718	0					1.49
42.417	0.00	2.12	2.704	0					1.48
42.500	0.00	2.11	2.689	0					1.47
42.583	0.00	2.11	2.674	0					1.46
42.667	0.00	2.11	2.660	0					1.46
42.750	0.00	2.10	2.645	0					1.45
42.833	0.00	2.10	2.631	0					1.44
42.917	0.00	2.10	2.617	0					1.44
43.000	0.00	2.10	2.602	0					1.43
43.083	0.00	2.09	2.588	0					1.42
43.167	0.00	2.09	2.573	0					1.42
43.250	0.00	2.09	2.559	0					1.41
43.333	0.00	2.08	2.545	0					1.40
43.417	0.00	2.08	2.530	0					1.40
43.500	0.00	2.08	2.516	0					1.39
43.583	0.00	2.07	2.502	0					1.38
43.667	0.00	2.07	2.487	0					1.38
43.750	0.00	2.07	2.473	0					1.37
43.833	0.00	2.07	2.459	0					1.36
43.917	0.00	2.06	2.445	0					1.36
44.000	0.00	2.06	2.430	0					1.35
44.083	0.00	2.06	2.416	0					1.34
44.167	0.00	2.05	2.402	0					1.34
44.250	0.00	2.05	2.388	0					1.33
44.333	0.00	2.05	2.374	0					1.32
44.417	0.00	2.05	2.360	0					1.32
44.500	0.00	2.04	2.346	0					1.31
44.583	0.00	2.04	2.332	0					1.30
44.667	0.00	2.04	2.318	0					1.30
44.750	0.00	2.03	2.304	0					1.29
44.833	0.00	2.03	2.290	0					1.28
44.917	0.00	2.03	2.276	0					1.28
45.000	0.00	2.03	2.262	0					1.27
45.083	0.00	2.02	2.248	0					1.26
45.167	0.00	2.02	2.234	0					1.26
45.250	0.00	2.02	2.220	0					1.25
45.333	0.00	2.01	2.206	0					1.24
45.417	0.00	2.01	2.192	0					1.24
45.500	0.00	2.01	2.178	0					1.23
45.583	0.00	2.01	2.164	0					1.22
45.667	0.00	2.00	2.151	0					1.22
45.750	0.00	2.00	2.137	0					1.21
45.833	0.00	2.00	2.123	0					1.20
45.917	0.00	1.99	2.109	0					1.20
46.000	0.00	1.99	2.096	0					1.19
46.083	0.00	1.99	2.082	0					1.18
46.167	0.00	1.99	2.068	0					1.18
46.250	0.00	1.98	2.054	0					1.17
46.333	0.00	1.98	2.041	0					1.16
46.417	0.00	1.98	2.027	0					1.16
46.500	0.00	1.98	2.014	0					1.15
46.583	0.00	1.97	2.000	0					1.15



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

46.667	0.00	1.97	1.986	0					1.14
46.750	0.00	1.97	1.973	0					1.13
46.833	0.00	1.96	1.959	0					1.13
46.917	0.00	1.96	1.946	0					1.12
47.000	0.00	1.96	1.932	0					1.11
47.083	0.00	1.96	1.919	0					1.11
47.167	0.00	1.95	1.905	0					1.10
47.250	0.00	1.95	1.892	0					1.09
47.333	0.00	1.95	1.879	0					1.09
47.417	0.00	1.95	1.865	0					1.08
47.500	0.00	1.94	1.852	0					1.08
47.583	0.00	1.94	1.838	0					1.07
47.667	0.00	1.94	1.825	0					1.06
47.750	0.00	1.93	1.812	0					1.06
47.833	0.00	1.93	1.798	0					1.05
47.917	0.00	1.93	1.785	0					1.04
48.000	0.00	1.93	1.772	0					1.04
48.083	0.00	1.92	1.759	0					1.03
48.167	0.00	1.92	1.745	0					1.02
48.250	0.00	1.92	1.732	0					1.02
48.333	0.00	1.92	1.719	0					1.01
48.417	0.00	1.91	1.706	0					1.01
48.500	0.00	1.91	1.693	0					1.00
48.583	0.00	1.89	1.679	0					0.99
48.667	0.00	1.88	1.666	0					0.98
48.750	0.00	1.87	1.654	0					0.98
48.833	0.00	1.85	1.641	0					0.97
48.917	0.00	1.84	1.628	0					0.96
49.000	0.00	1.82	1.615	0					0.95
49.083	0.00	1.81	1.603	0					0.95
49.167	0.00	1.79	1.591	0					0.94
49.250	0.00	1.78	1.578	0					0.93
49.333	0.00	1.77	1.566	0					0.92
49.417	0.00	1.75	1.554	0					0.92
49.500	0.00	1.74	1.542	0					0.91
49.583	0.00	1.73	1.530	0					0.90
49.667	0.00	1.71	1.518	0					0.90
49.750	0.00	1.70	1.506	0					0.89
49.833	0.00	1.69	1.495	0					0.88
49.917	0.00	1.67	1.483	0					0.88
50.000	0.00	1.66	1.472	0					0.87
50.083	0.00	1.65	1.460	0					0.86
50.167	0.00	1.63	1.449	0					0.86
50.250	0.00	1.62	1.438	0					0.85
50.333	0.00	1.61	1.427	0					0.84
50.417	0.00	1.60	1.416	0					0.84
50.500	0.00	1.58	1.405	0					0.83
50.583	0.00	1.57	1.394	0					0.82
50.667	0.00	1.56	1.383	0					0.82
50.750	0.00	1.55	1.372	0					0.81
50.833	0.00	1.54	1.362	0					0.80
50.917	0.00	1.52	1.351	0					0.80
51.000	0.00	1.51	1.341	0					0.79
51.083	0.00	1.50	1.330	0					0.79
51.167	0.00	1.49	1.320	0					0.78
51.250	0.00	1.48	1.310	0					0.77
51.333	0.00	1.47	1.300	0					0.77
51.417	0.00	1.45	1.290	0					0.76
51.500	0.00	1.44	1.280	0					0.76
51.583	0.00	1.43	1.270	0					0.75
51.667	0.00	1.42	1.260	0					0.74
51.750	0.00	1.41	1.250	0					0.74
51.833	0.00	1.40	1.240	0					0.73

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

51.917	0.00	1.39	1.231	0					0.73
52.000	0.00	1.38	1.221	0					0.72
52.083	0.00	1.37	1.212	0					0.72
52.167	0.00	1.36	1.202	0					0.71
52.250	0.00	1.35	1.193	0					0.70
52.333	0.00	1.34	1.184	0					0.70
52.417	0.00	1.33	1.175	0					0.69
52.500	0.00	1.32	1.166	0					0.69
52.583	0.00	1.30	1.157	0					0.68
52.667	0.00	1.29	1.148	0					0.68
52.750	0.00	1.28	1.139	0					0.67
52.833	0.00	1.27	1.130	0					0.67
52.917	0.00	1.26	1.121	0					0.66
53.000	0.00	1.26	1.113	0					0.66
53.083	0.00	1.25	1.104	0					0.65
53.167	0.00	1.24	1.095	0					0.65
53.250	0.00	1.23	1.087	0					0.64
53.333	0.00	1.22	1.079	0					0.64
53.417	0.00	1.21	1.070	0					0.63
53.500	0.00	1.20	1.062	0					0.63
53.583	0.00	1.19	1.054	0					0.62
53.667	0.00	1.18	1.046	0					0.62
53.750	0.00	1.17	1.037	0					0.61
53.833	0.00	1.16	1.029	0					0.61
53.917	0.00	1.15	1.021	0					0.60
54.000	0.00	1.14	1.014	0					0.60
54.083	0.00	1.13	1.006	0					0.59
54.167	0.00	1.13	0.998	0					0.59
54.250	0.00	1.12	0.990	0					0.58
54.333	0.00	1.11	0.982	0					0.58
54.417	0.00	1.10	0.975	0					0.58
54.500	0.00	1.09	0.967	0					0.57
54.583	0.00	1.08	0.960	0					0.57
54.667	0.00	1.07	0.952	0					0.56
54.750	0.00	1.07	0.945	0					0.56
54.833	0.00	1.06	0.938	0					0.55
54.917	0.00	1.05	0.930	0					0.55
55.000	0.00	1.04	0.923	0					0.55
55.083	0.00	1.03	0.916	0					0.54
55.167	0.00	1.03	0.909	0					0.54
55.250	0.00	1.02	0.902	0					0.53
55.333	0.00	1.01	0.895	0					0.53
55.417	0.00	1.00	0.888	0					0.52
55.500	0.00	0.99	0.881	0					0.52
55.583	0.00	0.99	0.874	0					0.52
55.667	0.00	0.98	0.868	0					0.51
55.750	0.00	0.97	0.861	0					0.51
55.833	0.00	0.96	0.854	0					0.50
55.917	0.00	0.96	0.848	0					0.50
56.000	0.00	0.95	0.841	0					0.50
56.083	0.00	0.94	0.835	0					0.49
56.167	0.00	0.93	0.828	0					0.49
56.250	0.00	0.93	0.822	0					0.49
56.333	0.00	0.92	0.815	0					0.48
56.417	0.00	0.91	0.809	0					0.48
56.500	0.00	0.91	0.803	0					0.47
56.583	0.00	0.90	0.797	0					0.47
56.667	0.00	0.89	0.790	0					0.47
56.750	0.00	0.88	0.784	0					0.46
56.833	0.00	0.88	0.778	0					0.46
56.917	0.00	0.87	0.772	0					0.46
57.000	0.00	0.86	0.766	0					0.45
57.083	0.00	0.86	0.760	0					0.45

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	0.85	0.754	0					0.45
57.250	0.00	0.84	0.749	0					0.44
57.333	0.00	0.84	0.743	0					0.44
57.417	0.00	0.83	0.737	0					0.44
57.500	0.00	0.83	0.731	0					0.43
57.583	0.00	0.82	0.726	0					0.43
57.667	0.00	0.81	0.720	0					0.43
57.750	0.00	0.81	0.714	0					0.42
57.833	0.00	0.80	0.709	0					0.42
57.917	0.00	0.79	0.703	0					0.42
58.000	0.00	0.79	0.698	0					0.41
58.083	0.00	0.78	0.693	0					0.41
58.167	0.00	0.78	0.687	0					0.41
58.250	0.00	0.77	0.682	0					0.40
58.333	0.00	0.76	0.677	0					0.40
58.417	0.00	0.76	0.671	0					0.40
58.500	0.00	0.75	0.666	0					0.39
58.583	0.00	0.75	0.661	0					0.39
58.667	0.00	0.74	0.656	0					0.39
58.750	0.00	0.73	0.651	0					0.38
58.833	0.00	0.73	0.646	0					0.38
58.917	0.00	0.72	0.641	0					0.38
59.000	0.00	0.72	0.636	0					0.38
59.083	0.00	0.71	0.631	0					0.37
59.167	0.00	0.71	0.626	0					0.37
59.250	0.00	0.70	0.621	0					0.37
59.333	0.00	0.70	0.616	0					0.36
59.417	0.00	0.69	0.612	0					0.36
59.500	0.00	0.68	0.607	0					0.36
59.583	0.00	0.68	0.602	0					0.36
59.667	0.00	0.67	0.598	0					0.35
59.750	0.00	0.67	0.593	0					0.35
59.833	0.00	0.66	0.588	0					0.35
59.917	0.00	0.66	0.584	0					0.34
60.000	0.00	0.65	0.579	0					0.34
60.083	0.00	0.65	0.575	0					0.34
60.167	0.00	0.64	0.570	0					0.34
60.250	0.00	0.64	0.566	0					0.33
60.333	0.00	0.63	0.562	0					0.33
60.417	0.00	0.63	0.557	0					0.33
60.500	0.00	0.62	0.553	0					0.33
60.583	0.00	0.62	0.549	0					0.32
60.667	0.00	0.61	0.544	0					0.32
60.750	0.00	0.61	0.540	0					0.32
60.833	0.00	0.60	0.536	0					0.32
60.917	0.00	0.60	0.532	0					0.31
61.000	0.00	0.60	0.528	0					0.31
61.083	0.00	0.59	0.524	0					0.31
61.167	0.00	0.59	0.520	0					0.31
61.250	0.00	0.58	0.516	0					0.30
61.333	0.00	0.58	0.512	0					0.30
61.417	0.00	0.57	0.508	0					0.30
61.500	0.00	0.57	0.504	0					0.30
61.583	0.00	0.56	0.500	0					0.30
61.667	0.00	0.56	0.496	0					0.29
61.750	0.00	0.56	0.492	0					0.29
61.833	0.00	0.55	0.488	0					0.29
61.917	0.00	0.55	0.484	0					0.29
62.000	0.00	0.54	0.481	0					0.28
62.083	0.00	0.54	0.477	0					0.28
62.167	0.00	0.53	0.473	0					0.28
62.250	0.00	0.53	0.470	0					0.28
62.333	0.00	0.53	0.466	0					0.28

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	0.52	0.462	0					0.27
62.500	0.00	0.52	0.459	0					0.27
62.583	0.00	0.51	0.455	0					0.27
62.667	0.00	0.51	0.452	0					0.27
62.750	0.00	0.51	0.448	0					0.26
62.833	0.00	0.50	0.445	0					0.26
62.917	0.00	0.50	0.441	0					0.26
63.000	0.00	0.49	0.438	0					0.26
63.083	0.00	0.49	0.435	0					0.26
63.167	0.00	0.49	0.431	0					0.25
63.250	0.00	0.48	0.428	0					0.25
63.333	0.00	0.48	0.425	0					0.25
63.417	0.00	0.48	0.421	0					0.25
63.500	0.00	0.47	0.418	0					0.25
63.583	0.00	0.47	0.415	0					0.24
63.667	0.00	0.46	0.412	0					0.24
63.750	0.00	0.46	0.408	0					0.24
63.833	0.00	0.46	0.405	0					0.24
63.917	0.00	0.45	0.402	0					0.24
64.000	0.00	0.45	0.399	0					0.24
64.083	0.00	0.45	0.396	0					0.23
64.167	0.00	0.44	0.393	0					0.23
64.250	0.00	0.44	0.390	0					0.23
64.333	0.00	0.44	0.387	0					0.23
64.417	0.00	0.43	0.384	0					0.23
64.500	0.00	0.43	0.381	0					0.22
64.583	0.00	0.43	0.378	0					0.22
64.667	0.00	0.42	0.375	0					0.22
64.750	0.00	0.42	0.372	0					0.22
64.833	0.00	0.42	0.369	0					0.22
64.917	0.00	0.41	0.366	0					0.22
65.000	0.00	0.41	0.363	0					0.21
65.083	0.00	0.41	0.361	0					0.21
65.167	0.00	0.40	0.358	0					0.21
65.250	0.00	0.40	0.355	0					0.21
65.333	0.00	0.40	0.352	0					0.21
65.417	0.00	0.39	0.350	0					0.21
65.500	0.00	0.39	0.347	0					0.20
65.583	0.00	0.39	0.344	0					0.20
65.667	0.00	0.39	0.342	0					0.20
65.750	0.00	0.38	0.339	0					0.20
65.833	0.00	0.38	0.336	0					0.20
65.917	0.00	0.38	0.334	0					0.20
66.000	0.00	0.37	0.331	0					0.20
66.083	0.00	0.37	0.329	0					0.19
66.167	0.00	0.37	0.326	0					0.19
66.250	0.00	0.36	0.323	0					0.19
66.333	0.00	0.36	0.321	0					0.19
66.417	0.00	0.36	0.318	0					0.19
66.500	0.00	0.36	0.316	0					0.19
66.583	0.00	0.35	0.314	0					0.19
66.667	0.00	0.35	0.311	0					0.18
66.750	0.00	0.35	0.309	0					0.18
66.833	0.00	0.35	0.306	0					0.18
66.917	0.00	0.34	0.304	0					0.18
67.000	0.00	0.34	0.302	0					0.18
67.083	0.00	0.34	0.299	0					0.18
67.167	0.00	0.34	0.297	0					0.18
67.250	0.00	0.33	0.295	0					0.17
67.333	0.00	0.33	0.292	0					0.17
67.417	0.00	0.33	0.290	0					0.17
67.500	0.00	0.32	0.288	0					0.17
67.583	0.00	0.32	0.286	0					0.17

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

67.667	0.00	0.32	0.283	0					0.17
67.750	0.00	0.32	0.281	0					0.17
67.833	0.00	0.31	0.279	0					0.16
67.917	0.00	0.31	0.277	0					0.16
68.000	0.00	0.31	0.275	0					0.16
68.083	0.00	0.31	0.273	0					0.16
68.167	0.00	0.31	0.271	0					0.16
68.250	0.00	0.30	0.268	0					0.16
68.333	0.00	0.30	0.266	0					0.16
68.417	0.00	0.30	0.264	0					0.16
68.500	0.00	0.30	0.262	0					0.15
68.583	0.00	0.29	0.260	0					0.15
68.667	0.00	0.29	0.258	0					0.15
68.750	0.00	0.29	0.256	0					0.15
68.833	0.00	0.29	0.254	0					0.15
68.917	0.00	0.28	0.252	0					0.15
69.000	0.00	0.28	0.250	0					0.15
69.083	0.00	0.28	0.248	0					0.15
69.167	0.00	0.28	0.246	0					0.15
69.250	0.00	0.28	0.245	0					0.14
69.333	0.00	0.27	0.243	0					0.14
69.417	0.00	0.27	0.241	0					0.14
69.500	0.00	0.27	0.239	0					0.14
69.583	0.00	0.27	0.237	0					0.14
69.667	0.00	0.27	0.235	0					0.14
69.750	0.00	0.26	0.233	0					0.14
69.833	0.00	0.26	0.232	0					0.14
69.917	0.00	0.26	0.230	0					0.14
70.000	0.00	0.26	0.228	0					0.13
70.083	0.00	0.26	0.226	0					0.13
70.167	0.00	0.25	0.224	0					0.13
70.250	0.00	0.25	0.223	0					0.13
70.333	0.00	0.25	0.221	0					0.13
70.417	0.00	0.25	0.219	0					0.13
70.500	0.00	0.25	0.218	0					0.13
70.583	0.00	0.24	0.216	0					0.13
70.667	0.00	0.24	0.214	0					0.13
70.750	0.00	0.24	0.213	0					0.13
70.833	0.00	0.24	0.211	0					0.12
70.917	0.00	0.24	0.209	0					0.12
71.000	0.00	0.23	0.208	0					0.12
71.083	0.00	0.23	0.206	0					0.12
71.167	0.00	0.23	0.205	0					0.12
71.250	0.00	0.23	0.203	0					0.12
71.333	0.00	0.23	0.201	0					0.12
71.417	0.00	0.23	0.200	0					0.12
71.500	0.00	0.22	0.198	0					0.12
71.583	0.00	0.22	0.197	0					0.12
71.667	0.00	0.22	0.195	0					0.12
71.750	0.00	0.22	0.194	0					0.11
71.833	0.00	0.22	0.192	0					0.11
71.917	0.00	0.22	0.191	0					0.11
72.000	0.00	0.21	0.189	0					0.11
72.083	0.00	0.21	0.188	0					0.11
72.167	0.00	0.21	0.186	0					0.11
72.250	0.00	0.21	0.185	0					0.11
72.333	0.00	0.21	0.183	0					0.11
72.417	0.00	0.21	0.182	0					0.11
72.500	0.00	0.20	0.181	0					0.11
72.583	0.00	0.20	0.179	0					0.11
72.667	0.00	0.20	0.178	0					0.11
72.750	0.00	0.20	0.176	0					0.10
72.833	0.00	0.20	0.175	0					0.10

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

72.917	0.00	0.20	0.174	0					0.10
73.000	0.00	0.19	0.172	0					0.10
73.083	0.00	0.19	0.171	0					0.10
73.167	0.00	0.19	0.170	0					0.10
73.250	0.00	0.19	0.168	0					0.10
73.333	0.00	0.19	0.167	0					0.10
73.417	0.00	0.19	0.166	0					0.10
73.500	0.00	0.19	0.165	0					0.10
73.583	0.00	0.18	0.163	0					0.10
73.667	0.00	0.18	0.162	0					0.10
73.750	0.00	0.18	0.161	0					0.09
73.833	0.00	0.18	0.159	0					0.09
73.917	0.00	0.18	0.158	0					0.09
74.000	0.00	0.18	0.157	0					0.09
74.083	0.00	0.18	0.156	0					0.09
74.167	0.00	0.17	0.155	0					0.09
74.250	0.00	0.17	0.153	0					0.09
74.333	0.00	0.17	0.152	0					0.09
74.417	0.00	0.17	0.151	0					0.09
74.500	0.00	0.17	0.150	0					0.09
74.583	0.00	0.17	0.149	0					0.09
74.667	0.00	0.17	0.148	0					0.09
74.750	0.00	0.17	0.146	0					0.09
74.833	0.00	0.16	0.145	0					0.09
74.917	0.00	0.16	0.144	0					0.09
75.000	0.00	0.16	0.143	0					0.08
75.083	0.00	0.16	0.142	0					0.08
75.167	0.00	0.16	0.141	0					0.08
75.250	0.00	0.16	0.140	0					0.08
75.333	0.00	0.16	0.139	0					0.08
75.417	0.00	0.16	0.138	0					0.08
75.500	0.00	0.15	0.137	0					0.08
75.583	0.00	0.15	0.135	0					0.08
75.667	0.00	0.15	0.134	0					0.08
75.750	0.00	0.15	0.133	0					0.08
75.833	0.00	0.15	0.132	0					0.08
75.917	0.00	0.15	0.131	0					0.08
76.000	0.00	0.15	0.130	0					0.08
76.083	0.00	0.15	0.129	0					0.08
76.167	0.00	0.14	0.128	0					0.08
76.250	0.00	0.14	0.127	0					0.08
76.333	0.00	0.14	0.126	0					0.07
76.417	0.00	0.14	0.125	0					0.07
76.500	0.00	0.14	0.124	0					0.07
76.583	0.00	0.14	0.123	0					0.07
76.667	0.00	0.14	0.122	0					0.07
76.750	0.00	0.14	0.122	0					0.07
76.833	0.00	0.14	0.121	0					0.07
76.917	0.00	0.13	0.120	0					0.07
77.000	0.00	0.13	0.119	0					0.07
77.083	0.00	0.13	0.118	0					0.07
77.167	0.00	0.13	0.117	0					0.07
77.250	0.00	0.13	0.116	0					0.07
77.333	0.00	0.13	0.115	0					0.07
77.417	0.00	0.13	0.114	0					0.07
77.500	0.00	0.13	0.113	0					0.07
77.583	0.00	0.13	0.112	0					0.07
77.667	0.00	0.13	0.112	0					0.07
77.750	0.00	0.12	0.111	0					0.07
77.833	0.00	0.12	0.110	0					0.06
77.917	0.00	0.12	0.109	0					0.06
78.000	0.00	0.12	0.108	0					0.06
78.083	0.00	0.12	0.107	0					0.06

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.12	0.106	0					0.06
78.250	0.00	0.12	0.106	0					0.06
78.333	0.00	0.12	0.105	0					0.06
78.417	0.00	0.12	0.104	0					0.06
78.500	0.00	0.12	0.103	0					0.06
78.583	0.00	0.12	0.102	0					0.06
78.667	0.00	0.11	0.102	0					0.06
78.750	0.00	0.11	0.101	0					0.06
78.833	0.00	0.11	0.100	0					0.06
78.917	0.00	0.11	0.099	0					0.06
79.000	0.00	0.11	0.099	0					0.06
79.083	0.00	0.11	0.098	0					0.06
79.167	0.00	0.11	0.097	0					0.06
79.250	0.00	0.11	0.096	0					0.06
79.333	0.00	0.11	0.096	0					0.06
79.417	0.00	0.11	0.095	0					0.06
79.500	0.00	0.11	0.094	0					0.06
79.583	0.00	0.11	0.093	0					0.06
79.667	0.00	0.10	0.093	0					0.05
79.750	0.00	0.10	0.092	0					0.05
79.833	0.00	0.10	0.091	0					0.05
79.917	0.00	0.10	0.090	0					0.05
80.000	0.00	0.10	0.090	0					0.05
80.083	0.00	0.10	0.089	0					0.05
80.167	0.00	0.10	0.088	0					0.05
80.250	0.00	0.10	0.088	0					0.05
80.333	0.00	0.10	0.087	0					0.05
80.417	0.00	0.10	0.086	0					0.05
80.500	0.00	0.10	0.086	0					0.05
80.583	0.00	0.10	0.085	0					0.05
80.667	0.00	0.10	0.084	0					0.05
80.750	0.00	0.09	0.084	0					0.05
80.833	0.00	0.09	0.083	0					0.05
80.917	0.00	0.09	0.082	0					0.05
81.000	0.00	0.09	0.082	0					0.05
81.083	0.00	0.09	0.081	0					0.05
81.167	0.00	0.09	0.080	0					0.05
81.250	0.00	0.09	0.080	0					0.05
81.333	0.00	0.09	0.079	0					0.05
81.417	0.00	0.09	0.079	0					0.05
81.500	0.00	0.09	0.078	0					0.05
81.583	0.00	0.09	0.077	0					0.05
81.667	0.00	0.09	0.077	0					0.05
81.750	0.00	0.09	0.076	0					0.05
81.833	0.00	0.09	0.076	0					0.04
81.917	0.00	0.08	0.075	0					0.04
82.000	0.00	0.08	0.074	0					0.04
82.083	0.00	0.08	0.074	0					0.04
82.167	0.00	0.08	0.073	0					0.04
82.250	0.00	0.08	0.073	0					0.04
82.333	0.00	0.08	0.072	0					0.04
82.417	0.00	0.08	0.072	0					0.04
82.500	0.00	0.08	0.071	0					0.04
82.583	0.00	0.08	0.071	0					0.04
82.667	0.00	0.08	0.070	0					0.04
82.750	0.00	0.08	0.069	0					0.04
82.833	0.00	0.08	0.069	0					0.04
82.917	0.00	0.08	0.068	0					0.04
83.000	0.00	0.08	0.068	0					0.04
83.083	0.00	0.08	0.067	0					0.04
83.167	0.00	0.08	0.067	0					0.04
83.250	0.00	0.07	0.066	0					0.04
83.333	0.00	0.07	0.066	0					0.04

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

83.417	0.00	0.07	0.065	0					0.04
83.500	0.00	0.07	0.065	0					0.04
83.583	0.00	0.07	0.064	0					0.04
83.667	0.00	0.07	0.064	0					0.04
83.750	0.00	0.07	0.063	0					0.04
83.833	0.00	0.07	0.063	0					0.04
83.917	0.00	0.07	0.062	0					0.04
84.000	0.00	0.07	0.062	0					0.04
84.083	0.00	0.07	0.061	0					0.04
84.167	0.00	0.07	0.061	0					0.04
84.250	0.00	0.07	0.060	0					0.04
84.333	0.00	0.07	0.060	0					0.04
84.417	0.00	0.07	0.059	0					0.04
84.500	0.00	0.07	0.059	0					0.03
84.583	0.00	0.07	0.059	0					0.03
84.667	0.00	0.07	0.058	0					0.03
84.750	0.00	0.07	0.058	0					0.03
84.833	0.00	0.06	0.057	0					0.03
84.917	0.00	0.06	0.057	0					0.03
85.000	0.00	0.06	0.056	0					0.03
85.083	0.00	0.06	0.056	0					0.03
85.167	0.00	0.06	0.055	0					0.03
85.250	0.00	0.06	0.055	0					0.03
85.333	0.00	0.06	0.055	0					0.03
85.417	0.00	0.06	0.054	0					0.03
85.500	0.00	0.06	0.054	0					0.03
85.583	0.00	0.06	0.053	0					0.03
85.667	0.00	0.06	0.053	0					0.03
85.750	0.00	0.06	0.053	0					0.03
85.833	0.00	0.06	0.052	0					0.03
85.917	0.00	0.06	0.052	0					0.03
86.000	0.00	0.06	0.051	0					0.03
86.083	0.00	0.06	0.051	0					0.03
86.167	0.00	0.06	0.051	0					0.03
86.250	0.00	0.06	0.050	0					0.03
86.333	0.00	0.06	0.050	0					0.03
86.417	0.00	0.06	0.049	0					0.03
86.500	0.00	0.06	0.049	0					0.03
86.583	0.00	0.05	0.049	0					0.03
86.667	0.00	0.05	0.048	0					0.03
86.750	0.00	0.05	0.048	0					0.03
86.833	0.00	0.05	0.047	0					0.03
86.917	0.00	0.05	0.047	0					0.03
87.000	0.00	0.05	0.047	0					0.03
87.083	0.00	0.05	0.046	0					0.03
87.167	0.00	0.05	0.046	0					0.03
87.250	0.00	0.05	0.046	0					0.03
87.333	0.00	0.05	0.045	0					0.03
87.417	0.00	0.05	0.045	0					0.03
87.500	0.00	0.05	0.045	0					0.03
87.583	0.00	0.05	0.044	0					0.03
87.667	0.00	0.05	0.044	0					0.03
87.750	0.00	0.05	0.044	0					0.03
87.833	0.00	0.05	0.043	0					0.03
87.917	0.00	0.05	0.043	0					0.03
88.000	0.00	0.05	0.043	0					0.03
88.083	0.00	0.05	0.042	0					0.02
88.167	0.00	0.05	0.042	0					0.02
88.250	0.00	0.05	0.042	0					0.02
88.333	0.00	0.05	0.041	0					0.02
88.417	0.00	0.05	0.041	0					0.02
88.500	0.00	0.05	0.041	0					0.02
88.583	0.00	0.05	0.040	0					0.02



# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.05	0.040	o					0.02
88.750	0.00	0.04	0.040	o					0.02
88.833	0.00	0.04	0.039	o					0.02
88.917	0.00	0.04	0.039	o					0.02
89.000	0.00	0.04	0.039	o					0.02
89.083	0.00	0.04	0.038	o					0.02
89.167	0.00	0.04	0.038	o					0.02
89.250	0.00	0.04	0.038	o					0.02
89.333	0.00	0.04	0.038	o					0.02
89.417	0.00	0.04	0.037	o					0.02
89.500	0.00	0.04	0.037	o					0.02
89.583	0.00	0.04	0.037	o					0.02
89.667	0.00	0.04	0.036	o					0.02
89.750	0.00	0.04	0.036	o					0.02
89.833	0.00	0.04	0.036	o					0.02
89.917	0.00	0.04	0.036	o					0.02
90.000	0.00	0.04	0.035	o					0.02
90.083	0.00	0.04	0.035	o					0.02
90.167	0.00	0.04	0.035	o					0.02
90.250	0.00	0.04	0.035	o					0.02
90.333	0.00	0.04	0.034	o					0.02
90.417	0.00	0.04	0.034	o					0.02
90.500	0.00	0.04	0.034	o					0.02
90.583	0.00	0.04	0.033	o					0.02
90.667	0.00	0.04	0.033	o					0.02
90.750	0.00	0.04	0.033	o					0.02
90.833	0.00	0.04	0.033	o					0.02
90.917	0.00	0.04	0.032	o					0.02
91.000	0.00	0.04	0.032	o					0.02
91.083	0.00	0.04	0.032	o					0.02
91.167	0.00	0.04	0.032	o					0.02
91.250	0.00	0.04	0.031	o					0.02
91.333	0.00	0.04	0.031	o					0.02
91.417	0.00	0.03	0.031	o					0.02
91.500	0.00	0.03	0.031	o					0.02
91.583	0.00	0.03	0.030	o					0.02
91.667	0.00	0.03	0.030	o					0.02
91.750	0.00	0.03	0.030	o					0.02
91.833	0.00	0.03	0.030	o					0.02
91.917	0.00	0.03	0.030	o					0.02
92.000	0.00	0.03	0.029	o					0.02
92.083	0.00	0.03	0.029	o					0.02
92.167	0.00	0.03	0.029	o					0.02
92.250	0.00	0.03	0.029	o					0.02
92.333	0.00	0.03	0.028	o					0.02
92.417	0.00	0.03	0.028	o					0.02
92.500	0.00	0.03	0.028	o					0.02
92.583	0.00	0.03	0.028	o					0.02
92.667	0.00	0.03	0.028	o					0.02
92.750	0.00	0.03	0.027	o					0.02
92.833	0.00	0.03	0.027	o					0.02
92.917	0.00	0.03	0.027	o					0.02
93.000	0.00	0.03	0.027	o					0.02
93.083	0.00	0.03	0.026	o					0.02
93.167	0.00	0.03	0.026	o					0.02
93.250	0.00	0.03	0.026	o					0.02
93.333	0.00	0.03	0.026	o					0.02
93.417	0.00	0.03	0.026	o					0.02
93.500	0.00	0.03	0.025	o					0.02
93.583	0.00	0.03	0.025	o					0.01
93.667	0.00	0.03	0.025	o					0.01
93.750	0.00	0.03	0.025	o					0.01
93.833	0.00	0.03	0.025	o					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.03	0.025	0					0.01
94.000	0.00	0.03	0.024	0					0.01
94.083	0.00	0.03	0.024	0					0.01
94.167	0.00	0.03	0.024	0					0.01
94.250	0.00	0.03	0.024	0					0.01
94.333	0.00	0.03	0.024	0					0.01
94.417	0.00	0.03	0.023	0					0.01
94.500	0.00	0.03	0.023	0					0.01
94.583	0.00	0.03	0.023	0					0.01
94.667	0.00	0.03	0.023	0					0.01
94.750	0.00	0.03	0.023	0					0.01
94.833	0.00	0.03	0.023	0					0.01
94.917	0.00	0.03	0.022	0					0.01
95.000	0.00	0.03	0.022	0					0.01
95.083	0.00	0.02	0.022	0					0.01
95.167	0.00	0.02	0.022	0					0.01
95.250	0.00	0.02	0.022	0					0.01
95.333	0.00	0.02	0.021	0					0.01
95.417	0.00	0.02	0.021	0					0.01
95.500	0.00	0.02	0.021	0					0.01
95.583	0.00	0.02	0.021	0					0.01
95.667	0.00	0.02	0.021	0					0.01
95.750	0.00	0.02	0.021	0					0.01
95.833	0.00	0.02	0.021	0					0.01
95.917	0.00	0.02	0.020	0					0.01
96.000	0.00	0.02	0.020	0					0.01
96.083	0.00	0.02	0.020	0					0.01
96.167	0.00	0.02	0.020	0					0.01
96.250	0.00	0.02	0.020	0					0.01
96.333	0.00	0.02	0.020	0					0.01
96.417	0.00	0.02	0.019	0					0.01
96.500	0.00	0.02	0.019	0					0.01
96.583	0.00	0.02	0.019	0					0.01
96.667	0.00	0.02	0.019	0					0.01
96.750	0.00	0.02	0.019	0					0.01
96.833	0.00	0.02	0.019	0					0.01
96.917	0.00	0.02	0.019	0					0.01
97.000	0.00	0.02	0.018	0					0.01
97.083	0.00	0.02	0.018	0					0.01
97.167	0.00	0.02	0.018	0					0.01
97.250	0.00	0.02	0.018	0					0.01
97.333	0.00	0.02	0.018	0					0.01
97.417	0.00	0.02	0.018	0					0.01
97.500	0.00	0.02	0.018	0					0.01
97.583	0.00	0.02	0.017	0					0.01
97.667	0.00	0.02	0.017	0					0.01
97.750	0.00	0.02	0.017	0					0.01
97.833	0.00	0.02	0.017	0					0.01
97.917	0.00	0.02	0.017	0					0.01
98.000	0.00	0.02	0.017	0					0.01
98.083	0.00	0.02	0.017	0					0.01
98.167	0.00	0.02	0.016	0					0.01
98.250	0.00	0.02	0.016	0					0.01
98.333	0.00	0.02	0.016	0					0.01
98.417	0.00	0.02	0.016	0					0.01
98.500	0.00	0.02	0.016	0					0.01
98.583	0.00	0.02	0.016	0					0.01
98.667	0.00	0.02	0.016	0					0.01
98.750	0.00	0.02	0.016	0					0.01
98.833	0.00	0.02	0.016	0					0.01
98.917	0.00	0.02	0.015	0					0.01
99.000	0.00	0.02	0.015	0					0.01
99.083	0.00	0.02	0.015	0					0.01

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.02	0.015	o					0.01
99.250	0.00	0.02	0.015	o					0.01
99.333	0.00	0.02	0.015	o					0.01
99.417	0.00	0.02	0.015	o					0.01
99.500	0.00	0.02	0.015	o					0.01
99.583	0.00	0.02	0.014	o					0.01
99.667	0.00	0.02	0.014	o					0.01
99.750	0.00	0.02	0.014	o					0.01
99.833	0.00	0.02	0.014	o					0.01
99.917	0.00	0.02	0.014	o					0.01
100.000	0.00	0.02	0.014	o					0.01
100.083	0.00	0.02	0.014	o					0.01
100.167	0.00	0.02	0.014	o					0.01
100.250	0.00	0.02	0.014	o					0.01
100.333	0.00	0.02	0.013	o					0.01
100.417	0.00	0.02	0.013	o					0.01
100.500	0.00	0.01	0.013	o					0.01
100.583	0.00	0.01	0.013	o					0.01
100.667	0.00	0.01	0.013	o					0.01
100.750	0.00	0.01	0.013	o					0.01
100.833	0.00	0.01	0.013	o					0.01
100.917	0.00	0.01	0.013	o					0.01
101.000	0.00	0.01	0.013	o					0.01
101.083	0.00	0.01	0.013	o					0.01
101.167	0.00	0.01	0.012	o					0.01
101.250	0.00	0.01	0.012	o					0.01
101.333	0.00	0.01	0.012	o					0.01
101.417	0.00	0.01	0.012	o					0.01
101.500	0.00	0.01	0.012	o					0.01
101.583	0.00	0.01	0.012	o					0.01
101.667	0.00	0.01	0.012	o					0.01
101.750	0.00	0.01	0.012	o					0.01
101.833	0.00	0.01	0.012	o					0.01
101.917	0.00	0.01	0.012	o					0.01
102.000	0.00	0.01	0.012	o					0.01
102.083	0.00	0.01	0.011	o					0.01
102.167	0.00	0.01	0.011	o					0.01
102.250	0.00	0.01	0.011	o					0.01
102.333	0.00	0.01	0.011	o					0.01
102.417	0.00	0.01	0.011	o					0.01
102.500	0.00	0.01	0.011	o					0.01
102.583	0.00	0.01	0.011	o					0.01
102.667	0.00	0.01	0.011	o					0.01
102.750	0.00	0.01	0.011	o					0.01
102.833	0.00	0.01	0.011	o					0.01
102.917	0.00	0.01	0.011	o					0.01
103.000	0.00	0.01	0.011	o					0.01
103.083	0.00	0.01	0.010	o					0.01
103.167	0.00	0.01	0.010	o					0.01
103.250	0.00	0.01	0.010	o					0.01
103.333	0.00	0.01	0.010	o					0.01
103.417	0.00	0.01	0.010	o					0.01
103.500	0.00	0.01	0.010	o					0.01
103.583	0.00	0.01	0.010	o					0.01
103.667	0.00	0.01	0.010	o					0.01
103.750	0.00	0.01	0.010	o					0.01
103.833	0.00	0.01	0.010	o					0.01
103.917	0.00	0.01	0.010	o					0.01
104.000	0.00	0.01	0.010	o					0.01
104.083	0.00	0.01	0.010	o					0.01
104.167	0.00	0.01	0.009	o					0.01
104.250	0.00	0.01	0.009	o					0.01
104.333	0.00	0.01	0.009	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.01	0.009	o					0.01
104.500	0.00	0.01	0.009	o					0.01
104.583	0.00	0.01	0.009	o					0.01
104.667	0.00	0.01	0.009	o					0.01
104.750	0.00	0.01	0.009	o					0.01
104.833	0.00	0.01	0.009	o					0.01
104.917	0.00	0.01	0.009	o					0.01
105.000	0.00	0.01	0.009	o					0.01
105.083	0.00	0.01	0.009	o					0.01
105.167	0.00	0.01	0.009	o					0.01
105.250	0.00	0.01	0.009	o					0.01
105.333	0.00	0.01	0.008	o					0.00
105.417	0.00	0.01	0.008	o					0.00
105.500	0.00	0.01	0.008	o					0.00
105.583	0.00	0.01	0.008	o					0.00
105.667	0.00	0.01	0.008	o					0.00
105.750	0.00	0.01	0.008	o					0.00
105.833	0.00	0.01	0.008	o					0.00
105.917	0.00	0.01	0.008	o					0.00
106.000	0.00	0.01	0.008	o					0.00
106.083	0.00	0.01	0.008	o					0.00
106.167	0.00	0.01	0.008	o					0.00
106.250	0.00	0.01	0.008	o					0.00
106.333	0.00	0.01	0.008	o					0.00
106.417	0.00	0.01	0.008	o					0.00
106.500	0.00	0.01	0.008	o					0.00
106.583	0.00	0.01	0.008	o					0.00
106.667	0.00	0.01	0.007	o					0.00
106.750	0.00	0.01	0.007	o					0.00
106.833	0.00	0.01	0.007	o					0.00
106.917	0.00	0.01	0.007	o					0.00
107.000	0.00	0.01	0.007	o					0.00
107.083	0.00	0.01	0.007	o					0.00
107.167	0.00	0.01	0.007	o					0.00
107.250	0.00	0.01	0.007	o					0.00
107.333	0.00	0.01	0.007	o					0.00
107.417	0.00	0.01	0.007	o					0.00
107.500	0.00	0.01	0.007	o					0.00
107.583	0.00	0.01	0.007	o					0.00
107.667	0.00	0.01	0.007	o					0.00
107.750	0.00	0.01	0.007	o					0.00
107.833	0.00	0.01	0.007	o					0.00
107.917	0.00	0.01	0.007	o					0.00
108.000	0.00	0.01	0.007	o					0.00
108.083	0.00	0.01	0.007	o					0.00
108.167	0.00	0.01	0.006	o					0.00
108.250	0.00	0.01	0.006	o					0.00
108.333	0.00	0.01	0.006	o					0.00
108.417	0.00	0.01	0.006	o					0.00
108.500	0.00	0.01	0.006	o					0.00
108.583	0.00	0.01	0.006	o					0.00
108.667	0.00	0.01	0.006	o					0.00
108.750	0.00	0.01	0.006	o					0.00
108.833	0.00	0.01	0.006	o					0.00
108.917	0.00	0.01	0.006	o					0.00
109.000	0.00	0.01	0.006	o					0.00
109.083	0.00	0.01	0.006	o					0.00
109.167	0.00	0.01	0.006	o					0.00
109.250	0.00	0.01	0.006	o					0.00
109.333	0.00	0.01	0.006	o					0.00
109.417	0.00	0.01	0.006	o					0.00
109.500	0.00	0.01	0.006	o					0.00
109.583	0.00	0.01	0.006	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.01	0.006	0					0.00
109.750	0.00	0.01	0.006	0					0.00
109.833	0.00	0.01	0.006	0					0.00
109.917	0.00	0.01	0.006	0					0.00
110.000	0.00	0.01	0.005	0					0.00
110.083	0.00	0.01	0.005	0					0.00
110.167	0.00	0.01	0.005	0					0.00
110.250	0.00	0.01	0.005	0					0.00
110.333	0.00	0.01	0.005	0					0.00
110.417	0.00	0.01	0.005	0					0.00
110.500	0.00	0.01	0.005	0					0.00
110.583	0.00	0.01	0.005	0					0.00
110.667	0.00	0.01	0.005	0					0.00
110.750	0.00	0.01	0.005	0					0.00
110.833	0.00	0.01	0.005	0					0.00
110.917	0.00	0.01	0.005	0					0.00
111.000	0.00	0.01	0.005	0					0.00
111.083	0.00	0.01	0.005	0					0.00
111.167	0.00	0.01	0.005	0					0.00
111.250	0.00	0.01	0.005	0					0.00
111.333	0.00	0.01	0.005	0					0.00
111.417	0.00	0.01	0.005	0					0.00
111.500	0.00	0.01	0.005	0					0.00
111.583	0.00	0.01	0.005	0					0.00
111.667	0.00	0.01	0.005	0					0.00
111.750	0.00	0.01	0.005	0					0.00
111.833	0.00	0.01	0.005	0					0.00
111.917	0.00	0.01	0.005	0					0.00
112.000	0.00	0.01	0.005	0					0.00
112.083	0.00	0.01	0.005	0					0.00
112.167	0.00	0.01	0.004	0					0.00
112.250	0.00	0.01	0.004	0					0.00
112.333	0.00	0.00	0.004	0					0.00
112.417	0.00	0.00	0.004	0					0.00
112.500	0.00	0.00	0.004	0					0.00
112.583	0.00	0.00	0.004	0					0.00
112.667	0.00	0.00	0.004	0					0.00
112.750	0.00	0.00	0.004	0					0.00
112.833	0.00	0.00	0.004	0					0.00
112.917	0.00	0.00	0.004	0					0.00
113.000	0.00	0.00	0.004	0					0.00
113.083	0.00	0.00	0.004	0					0.00
113.167	0.00	0.00	0.004	0					0.00
113.250	0.00	0.00	0.004	0					0.00
113.333	0.00	0.00	0.004	0					0.00
113.417	0.00	0.00	0.004	0					0.00
113.500	0.00	0.00	0.004	0					0.00
113.583	0.00	0.00	0.004	0					0.00
113.667	0.00	0.00	0.004	0					0.00
113.750	0.00	0.00	0.004	0					0.00
113.833	0.00	0.00	0.004	0					0.00
113.917	0.00	0.00	0.004	0					0.00
114.000	0.00	0.00	0.004	0					0.00
114.083	0.00	0.00	0.004	0					0.00
114.167	0.00	0.00	0.004	0					0.00
114.250	0.00	0.00	0.004	0					0.00
114.333	0.00	0.00	0.004	0					0.00
114.417	0.00	0.00	0.004	0					0.00
114.500	0.00	0.00	0.004	0					0.00
114.583	0.00	0.00	0.004	0					0.00
114.667	0.00	0.00	0.004	0					0.00
114.750	0.00	0.00	0.004	0					0.00
114.833	0.00	0.00	0.003	0					0.00

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

114.917	0.00	0.00	0.003	o					0.00
115.000	0.00	0.00	0.003	o					0.00
115.083	0.00	0.00	0.003	o					0.00
115.167	0.00	0.00	0.003	o					0.00
115.250	0.00	0.00	0.003	o					0.00
115.333	0.00	0.00	0.003	o					0.00
115.417	0.00	0.00	0.003	o					0.00
115.500	0.00	0.00	0.003	o					0.00
115.583	0.00	0.00	0.003	o					0.00
115.667	0.00	0.00	0.003	o					0.00
115.750	0.00	0.00	0.003	o					0.00
115.833	0.00	0.00	0.003	o					0.00
115.917	0.00	0.00	0.003	o					0.00
116.000	0.00	0.00	0.003	o					0.00
116.083	0.00	0.00	0.003	o					0.00
116.167	0.00	0.00	0.003	o					0.00
116.250	0.00	0.00	0.003	o					0.00
116.333	0.00	0.00	0.003	o					0.00
116.417	0.00	0.00	0.003	o					0.00
116.500	0.00	0.00	0.003	o					0.00
116.583	0.00	0.00	0.003	o					0.00
116.667	0.00	0.00	0.003	o					0.00
116.750	0.00	0.00	0.003	o					0.00
116.833	0.00	0.00	0.003	o					0.00
116.917	0.00	0.00	0.003	o					0.00
117.000	0.00	0.00	0.003	o					0.00
117.083	0.00	0.00	0.003	o					0.00
117.167	0.00	0.00	0.003	o					0.00
117.250	0.00	0.00	0.003	o					0.00
117.333	0.00	0.00	0.003	o					0.00
117.417	0.00	0.00	0.003	o					0.00
117.500	0.00	0.00	0.003	o					0.00
117.583	0.00	0.00	0.003	o					0.00
117.667	0.00	0.00	0.003	o					0.00
117.750	0.00	0.00	0.003	o					0.00
117.833	0.00	0.00	0.003	o					0.00
117.917	0.00	0.00	0.003	o					0.00
118.000	0.00	0.00	0.003	o					0.00
118.083	0.00	0.00	0.003	o					0.00
118.167	0.00	0.00	0.003	o					0.00
118.250	0.00	0.00	0.003	o					0.00
118.333	0.00	0.00	0.003	o					0.00
118.417	0.00	0.00	0.002	o					0.00
118.500	0.00	0.00	0.002	o					0.00
118.583	0.00	0.00	0.002	o					0.00
118.667	0.00	0.00	0.002	o					0.00
118.750	0.00	0.00	0.002	o					0.00
118.833	0.00	0.00	0.002	o					0.00
118.917	0.00	0.00	0.002	o					0.00
119.000	0.00	0.00	0.002	o					0.00
119.083	0.00	0.00	0.002	o					0.00
119.167	0.00	0.00	0.002	o					0.00
119.250	0.00	0.00	0.002	o					0.00
119.333	0.00	0.00	0.002	o					0.00
119.417	0.00	0.00	0.002	o					0.00
119.500	0.00	0.00	0.002	o					0.00
119.583	0.00	0.00	0.002	o					0.00
119.667	0.00	0.00	0.002	o					0.00
119.750	0.00	0.00	0.002	o					0.00
119.833	0.00	0.00	0.002	o					0.00
119.917	0.00	0.00	0.002	o					0.00
120.000	0.00	0.00	0.002	o					0.00
120.083	0.00	0.00	0.002	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

120.167	0.00	0.00	0.002	o					0.00
120.250	0.00	0.00	0.002	o					0.00
120.333	0.00	0.00	0.002	o					0.00
120.417	0.00	0.00	0.002	o					0.00
120.500	0.00	0.00	0.002	o					0.00
120.583	0.00	0.00	0.002	o					0.00
120.667	0.00	0.00	0.002	o					0.00
120.750	0.00	0.00	0.002	o					0.00
120.833	0.00	0.00	0.002	o					0.00
120.917	0.00	0.00	0.002	o					0.00
121.000	0.00	0.00	0.002	o					0.00
121.083	0.00	0.00	0.002	o					0.00
121.167	0.00	0.00	0.002	o					0.00
121.250	0.00	0.00	0.002	o					0.00
121.333	0.00	0.00	0.002	o					0.00
121.417	0.00	0.00	0.002	o					0.00
121.500	0.00	0.00	0.002	o					0.00
121.583	0.00	0.00	0.002	o					0.00
121.667	0.00	0.00	0.002	o					0.00
121.750	0.00	0.00	0.002	o					0.00
121.833	0.00	0.00	0.002	o					0.00
121.917	0.00	0.00	0.002	o					0.00
122.000	0.00	0.00	0.002	o					0.00
122.083	0.00	0.00	0.002	o					0.00
122.167	0.00	0.00	0.002	o					0.00
122.250	0.00	0.00	0.002	o					0.00
122.333	0.00	0.00	0.002	o					0.00
122.417	0.00	0.00	0.002	o					0.00
122.500	0.00	0.00	0.002	o					0.00
122.583	0.00	0.00	0.002	o					0.00
122.667	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 1472
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 78.747 (CFS)
      Total volume = 20.420 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

FLOOD HYDROGRAPH ROUTING PROGRAM  
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005  
 Study date: 05/07/21

-----  
 KELLER CROSSING  
 Drainage Area C = 91.5 Ac  
 Detention Basin Routing Basin C  
 100-year 24-hour storm  
 -----

Program License Serial Number 4029

-----  
 \*\*\*\*\* HYDROGRAPH INFORMATION \*\*\*\*\*

From study/file name: kxprh24100.rte  
 \*\*\*\*\*HYDROGRAPH DATA\*\*\*\*\*  
 Number of intervals = 294  
 Time interval = 5.0 (Min.)  
 Maximum/Peak flow rate = 66.833 (CFS)  
 Total volume = 34.880 (Ac.Ft)  
 Status of hydrographs being held in storage  
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5  
 Peak (CFS)      0.000   0.000   0.000   0.000   0.000  
 Vol (Ac.Ft)     0.000   0.000   0.000   0.000   0.000  
 \*\*\*\*\*

+++++  
 Process from Point/Station 10.000 to Point/Station 11.000  
 \*\*\*\* RETARDING BASIN ROUTING \*\*\*\*

-----  
 User entry of depth-outflow-storage data  
 -----

Total number of inflow hydrograph intervals = 294  
 Hydrograph time unit = 5.000 (Min.)  
 Initial depth in storage basin = 0.00 (Ft.)  
 -----

Initial basin depth = 0.00 (Ft.)  
 Initial basin storage = 0.00 (Ac.Ft)  
 Initial basin outflow = 0.00 (CFS)  
 -----

-----  
 Depth vs. Storage and Depth vs. Discharge data:  
 -----

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.693	1.910	1.686	1.700
2.000	3.806	2.340	3.798	3.814
3.000	6.534	2.710	6.525	6.543
4.000	9.741	3.030	9.731	9.751
5.000	13.275	33.320	13.160	13.390
6.000	16.265	88.430	15.960	16.570

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# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

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Hydrograph Detention Basin Routing  
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Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	16.7	33.42	50.12	66.83	Depth (Ft.)
0.083	0.66	0.00	0.002	O					0.00
0.167	1.97	0.01	0.011	O					0.01
0.250	2.33	0.03	0.026	O I					0.02
0.333	2.82	0.05	0.043	O I					0.03
0.417	3.57	0.07	0.065	O I					0.04
0.500	3.81	0.10	0.090	O I					0.05
0.583	3.93	0.13	0.116	O I					0.07
0.667	3.98	0.16	0.142	O I					0.08
0.750	4.01	0.19	0.168	O I					0.10
0.833	4.36	0.22	0.196	O I					0.12
0.917	5.01	0.26	0.226	O I					0.13
1.000	5.19	0.29	0.259	O I					0.15
1.083	4.95	0.33	0.292	O I					0.17
1.167	4.34	0.36	0.322	O I					0.19
1.250	4.18	0.39	0.349	O I					0.21
1.333	4.12	0.42	0.374	O I					0.22
1.417	4.08	0.45	0.400	O I					0.24
1.500	4.05	0.48	0.424	O I					0.25
1.583	4.03	0.51	0.449	O I					0.27
1.667	4.03	0.53	0.473	O I					0.28
1.750	4.03	0.56	0.497	O I					0.29
1.833	4.36	0.59	0.522	O I					0.31
1.917	5.01	0.62	0.550	O I					0.32
2.000	5.19	0.66	0.581	O I					0.34
2.083	5.28	0.69	0.612	O I					0.36
2.167	5.32	0.73	0.644	O I					0.38
2.250	5.35	0.76	0.675	O I					0.40
2.333	5.37	0.80	0.707	O I					0.42
2.417	5.37	0.83	0.738	O I					0.44
2.500	5.37	0.87	0.769	O I					0.45
2.583	5.70	0.90	0.802	O I					0.47
2.667	6.36	0.94	0.837	O I					0.49
2.750	6.54	0.99	0.874	O I					0.52
2.833	6.62	1.03	0.913	O I					0.54
2.917	6.67	1.07	0.951	O I					0.56
3.000	6.69	1.12	0.990	O I					0.58
3.083	6.71	1.16	1.028	O I					0.61
3.167	6.71	1.20	1.066	O I					0.63
3.250	6.71	1.25	1.104	O I					0.65
3.333	6.71	1.29	1.142	O I					0.67
3.417	6.71	1.33	1.179	O I					0.70
3.500	6.71	1.37	1.216	O I					0.72
3.583	6.71	1.41	1.252	O I					0.74
3.667	6.71	1.45	1.289	O I					0.76
3.750	6.71	1.49	1.325	O I					0.78
3.833	7.04	1.54	1.362	O I					0.80
3.917	7.70	1.58	1.402	O I					0.83
4.000	7.88	1.63	1.444	O I					0.85
4.083	7.96	1.68	1.488	O I					0.88
4.167	8.01	1.73	1.531	O I					0.90
4.250	8.04	1.78	1.574	O I					0.93
4.333	8.39	1.83	1.618	O I					0.96
4.417	9.04	1.88	1.665	O I					0.98
4.500	9.22	1.91	1.715	O I					1.01
4.583	9.31	1.92	1.766	O I					1.03

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

4.667	9.35	1.94	1.817	O	I					1.06
4.750	9.38	1.95	1.868	O	I					1.08
4.833	9.73	1.96	1.920	O	I					1.11
4.917	10.38	1.97	1.976	O	I					1.13
5.000	10.57	1.98	2.035	O	I					1.16
5.083	9.99	1.99	2.092	O	I					1.19
5.167	8.73	2.00	2.142	O	I					1.21
5.250	8.39	2.01	2.187	O	I					1.23
5.333	8.58	2.02	2.232	O	I					1.26
5.417	9.14	2.03	2.279	O	I					1.28
5.500	9.27	2.04	2.328	O	I					1.30
5.583	9.63	2.05	2.379	O	I					1.32
5.667	10.34	2.06	2.434	O	I					1.35
5.750	10.54	2.07	2.492	O	I					1.38
5.833	10.65	2.08	2.550	O	I					1.41
5.917	10.69	2.10	2.609	O	I					1.43
6.000	10.72	2.11	2.669	O	I					1.46
6.083	11.07	2.12	2.729	O	I					1.49
6.167	11.73	2.13	2.793	O	I					1.52
6.250	11.91	2.15	2.860	O	I					1.55
6.333	11.99	2.16	2.927	O	I					1.58
6.417	12.04	2.17	2.995	O	I					1.62
6.500	12.06	2.19	3.063	O	I					1.65
6.583	12.41	2.20	3.132	O	I					1.68
6.667	13.07	2.22	3.205	O	I					1.72
6.750	13.25	2.23	3.280	O	I					1.75
6.833	13.33	2.25	3.356	O	I					1.79
6.917	13.38	2.26	3.433	O	I					1.82
7.000	13.41	2.28	3.509	O	I					1.86
7.083	13.43	2.30	3.586	O	I					1.90
7.167	13.43	2.31	3.662	O	I					1.93
7.250	13.43	2.33	3.739	O	I					1.97
7.333	13.76	2.34	3.816	O	I					2.00
7.417	14.41	2.35	3.897	O	I					2.03
7.500	14.59	2.36	3.981	O	I					2.06
7.583	15.14	2.38	4.067	O	I					2.10
7.667	16.12	2.39	4.158	O	I					2.13
7.750	16.44	2.40	4.254	O	I					2.16
7.833	17.14	2.41	4.353	O	I					2.20
7.917	18.31	2.43	4.458	O	I					2.24
8.000	18.68	2.44	4.569	O	I					2.28
8.083	19.94	2.46	4.685	O	I					2.32
8.167	22.17	2.48	4.813	O	I					2.37
8.250	22.85	2.50	4.951	O	I					2.42
8.333	23.19	2.51	5.092	O	I					2.47
8.417	23.38	2.53	5.235	O	I					2.52
8.500	23.51	2.55	5.379	O	I					2.58
8.583	24.15	2.57	5.526	O	I					2.63
8.667	25.25	2.59	5.678	O	I					2.69
8.750	25.58	2.62	5.835	O	I					2.74
8.833	26.29	2.64	5.996	O	I					2.80
8.917	27.46	2.66	6.163	O	I					2.86
9.000	27.84	2.68	6.335	O	I					2.93
9.083	29.11	2.71	6.512	O	I					2.99
9.167	31.34	2.73	6.702	O	I					3.05
9.250	32.01	2.75	6.901	O	I					3.11
9.333	32.88	2.77	7.105	O	I					3.18
9.417	34.12	2.79	7.317	O	I					3.24
9.500	34.55	2.81	7.534	O	I					3.31
9.583	35.32	2.83	7.755	O	I					3.38
9.667	36.49	2.85	7.983	O	I					3.45
9.750	36.87	2.88	8.216	O	I					3.52
9.833	37.60	2.90	8.452	O	I					3.60

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

9.917	38.78	2.93	8.695	O		I			3.67
10.000	39.15	2.95	8.943	O		I			3.75
10.083	35.65	2.97	9.181	O		I			3.83
10.167	28.37	2.99	9.380	O		I			3.89
10.250	26.40	3.01	9.548	O		I			3.94
10.333	25.54	3.03	9.706	O		I			3.99
10.417	25.06	4.02	9.856	O		I			4.03
10.500	24.79	5.22	9.996	O		I			4.07
10.583	27.23	6.41	10.135	O		I			4.11
10.667	32.56	7.76	10.292	O		I			4.16
10.750	34.06	9.22	10.463	O		I			4.20
10.833	34.77	10.67	10.632	O		I			4.25
10.917	35.18	12.06	10.795	O		I			4.30
11.000	35.43	13.39	10.950	O		I			4.34
11.083	35.11	14.65	11.096	O		I			4.38
11.167	34.10	15.79	11.230	O		I			4.42
11.250	33.84	16.83	11.351	O		I			4.46
11.333	33.74	17.81	11.465	O		I			4.49
11.417	33.71	18.72	11.571	O		I			4.52
11.500	33.70	19.58	11.672	O		I			4.55
11.583	32.64	20.36	11.763	O		I			4.57
11.667	30.57	21.00	11.838	O		I			4.59
11.750	30.02	21.53	11.900	O		I			4.61
11.833	30.32	22.03	11.958	O		I			4.63
11.917	31.26	22.53	12.016	O		I			4.64
12.000	31.50	23.04	12.076	O		I			4.66
12.083	35.31	23.63	12.145	O		I			4.68
12.167	42.82	24.52	12.248	O		I			4.71
12.250	44.95	25.63	12.378	O		I			4.75
12.333	46.49	26.78	12.512	O		I			4.78
12.417	48.10	27.96	12.649	O		I			4.82
12.500	48.73	29.13	12.786	O		I			4.86
12.583	50.21	30.30	12.922	O		I			4.90
12.667	52.43	31.50	13.063	O		I			4.94
12.750	53.09	32.72	13.205	O		I			4.98
12.833	53.96	34.56	13.342	O		I			5.02
12.917	55.20	36.95	13.472	O		I			5.07
13.000	55.62	39.15	13.591	O		I			5.11
13.083	58.50	41.29	13.707	O		I			5.14
13.167	63.89	43.66	13.836	O		I			5.19
13.250	65.44	46.17	13.972	O		I			5.23
13.333	66.17	48.51	14.099	O		I			5.28
13.417	66.58	50.65	14.215	O		I			5.31
13.500	66.83	52.56	14.319	O		I			5.35
13.583	61.21	53.93	14.393	O		I			5.37
13.667	49.62	54.11	14.403	O		I			5.38
13.750	46.43	53.38	14.364	O		I			5.36
13.833	45.00	52.47	14.314	O		I			5.35
13.917	44.21	51.53	14.263	O		I			5.33
14.000	43.76	50.63	14.214	O		I			5.31
14.083	45.53	49.92	14.175	O		I			5.30
14.167	49.79	49.65	14.161	O		I			5.30
14.250	51.00	49.74	14.166	O		I			5.30
14.333	51.03	49.89	14.174	O		I			5.30
14.417	50.31	49.98	14.179	O		I			5.30
14.500	50.22	50.02	14.181	O		I			5.30
14.583	50.26	50.04	14.182	O		I			5.30
14.667	50.22	50.07	14.184	O		I			5.30
14.750	50.20	50.08	14.184	O		I			5.30
14.833	49.67	50.07	14.184	O		I			5.30
14.917	48.65	49.96	14.178	O		I			5.30
15.000	48.38	49.79	14.168	O		I			5.30
15.083	47.75	49.58	14.157	O		I			5.30

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

15.167	46.65	49.30	14.142				IO		5.29
15.250	46.35	48.96	14.124				IO		5.28
15.333	45.68	48.61	14.105				I O		5.28
15.417	44.58	48.19	14.082				I O		5.27
15.500	44.27	47.74	14.058				IO		5.26
15.583	42.01	47.20	14.028				I O		5.25
15.667	37.74	46.32	13.980				I O		5.24
15.750	36.56	45.23	13.921				I O		5.22
15.833	36.02	44.16	13.863				I O		5.20
15.917	35.75	43.17	13.810				I O		5.18
16.000	35.60	42.28	13.761				I O		5.16
16.083	28.12	41.03	13.694			I	O		5.14
16.167	13.42	38.61	13.562		I		O		5.10
16.250	9.35	35.36	13.386		I		O		5.04
16.333	7.50	32.76	13.209		I		O		4.98
16.417	6.46	31.28	13.037		I		O		4.93
16.500	5.86	29.84	12.869		I		O		4.89
16.583	5.04	28.44	12.706		I		O		4.84
16.667	4.39	27.08	12.547		I		O		4.79
16.750	4.21	25.77	12.395		I		O		4.75
16.833	4.12	24.54	12.250		I		O		4.71
16.917	4.08	23.36	12.113		I		O		4.67
17.000	4.05	22.26	11.984		I		O		4.63
17.083	4.69	21.23	11.865		I		O		4.60
17.167	6.00	20.32	11.758		I		O		4.57
17.250	6.36	19.51	11.664		I		O		4.54
17.333	6.52	18.76	11.576		I		O		4.52
17.417	6.62	18.06	11.495		I		O		4.50
17.500	6.67	17.41	11.418		I		O		4.47
17.583	6.71	16.79	11.347		I		O		4.45
17.667	6.71	16.21	11.279		I		O		4.44
17.750	6.71	15.67	11.216		I		O		4.42
17.833	6.39	15.15	11.155		I		O		4.40
17.917	5.73	14.63	11.094		I		O		4.38
18.000	5.55	14.11	11.034		I		O		4.37
18.083	5.47	13.62	10.976		I		O		4.35
18.167	5.42	13.15	10.922		I		O		4.33
18.250	5.39	12.70	10.870		I		O		4.32
18.333	5.37	12.28	10.821		I		O		4.31
18.417	5.37	11.89	10.775		I		O		4.29
18.500	5.37	11.51	10.731		I		O		4.28
18.583	5.04	11.15	10.689		I		O		4.27
18.667	4.39	10.78	10.646		I		O		4.26
18.750	4.21	10.41	10.602		I		O		4.24
18.833	3.79	10.04	10.559		I		O		4.23
18.917	3.09	9.67	10.515		I		O		4.22
19.000	2.88	9.28	10.471		I		O		4.21
19.083	3.11	8.92	10.429		I		O		4.19
19.167	3.72	8.61	10.392		I		O		4.18
19.250	3.87	8.33	10.359		I		O		4.18
19.333	4.26	8.09	10.331		IO				4.17
19.417	4.96	7.89	10.308		IO				4.16
19.500	5.17	7.73	10.289		IO				4.16
19.583	4.95	7.57	10.271		IO				4.15
19.667	4.34	7.40	10.251		IO				4.14
19.750	4.18	7.22	10.230		IO				4.14
19.833	3.79	7.04	10.209		IO				4.13
19.917	3.09	6.83	10.185		IO				4.13
20.000	2.88	6.61	10.159		IO				4.12
20.083	3.11	6.41	10.135		IO				4.11
20.167	3.72	6.23	10.115		IO				4.11
20.250	3.87	6.09	10.098		IO				4.10
20.333	3.93	5.97	10.084		IO				4.10

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

20.417	3.98	5.85	10.070	IO					4.09
20.500	4.01	5.75	10.058	IO					4.09
20.583	4.03	5.65	10.046	IO					4.09
20.667	4.03	5.55	10.036	IO					4.08
20.750	4.03	5.47	10.025	IO					4.08
20.833	3.70	5.38	10.015	IO					4.08
20.917	3.05	5.26	10.001	IO					4.07
21.000	2.86	5.13	9.986	IO					4.07
21.083	3.11	5.01	9.971	IO					4.07
21.167	3.72	4.91	9.961	IO					4.06
21.250	3.87	4.85	9.953	IO					4.06
21.333	3.61	4.79	9.946	IO					4.06
21.417	3.00	4.70	9.936	IO					4.06
21.500	2.84	4.60	9.924	IO					4.05
21.583	3.11	4.51	9.913	IO					4.05
21.667	3.72	4.44	9.906	IO					4.05
21.750	3.87	4.41	9.902	IO					4.05
21.833	3.61	4.37	9.897	IO					4.04
21.917	3.00	4.31	9.890	IO					4.04
22.000	2.84	4.23	9.881	IO					4.04
22.083	3.11	4.16	9.872	O					4.04
22.167	3.72	4.11	9.867	O					4.04
22.250	3.87	4.09	9.865	O					4.04
22.333	3.61	4.07	9.863	O					4.03
22.417	3.00	4.03	9.858	O					4.03
22.500	2.84	3.97	9.850	O					4.03
22.583	2.78	3.90	9.842	O					4.03
22.667	2.73	3.83	9.835	O					4.03
22.750	2.71	3.77	9.827	O					4.02
22.833	2.69	3.71	9.820	O					4.02
22.917	2.69	3.65	9.813	O					4.02
23.000	2.69	3.60	9.807	O					4.02
23.083	2.69	3.54	9.801	O					4.02
23.167	2.69	3.49	9.795	O					4.02
23.250	2.69	3.45	9.790	O					4.01
23.333	2.69	3.40	9.785	O					4.01
23.417	2.69	3.36	9.780	O					4.01
23.500	2.69	3.32	9.775	O					4.01
23.583	2.69	3.29	9.771	O					4.01
23.667	2.69	3.25	9.767	O					4.01
23.750	2.69	3.22	9.763	O					4.01
23.833	2.69	3.19	9.760	O					4.01
23.917	2.69	3.16	9.756	O					4.00
24.000	2.69	3.13	9.753	O					4.00
24.083	2.03	3.09	9.748	O					4.00
24.167	0.72	3.03	9.736	O					4.00
24.250	0.35	3.03	9.719	O					3.99
24.333	0.19	3.03	9.700	O					3.99
24.417	0.10	3.02	9.680	O					3.98
24.500	0.04	3.02	9.660	O					3.97
24.583	0.00	3.02	9.639	O					3.97
24.667	0.00	3.02	9.619	O					3.96
24.750	0.00	3.02	9.598	O					3.96
24.833	0.00	3.01	9.577	O					3.95
24.917	0.00	3.01	9.556	O					3.94
25.000	0.00	3.01	9.535	O					3.94
25.083	0.00	3.01	9.515	O					3.93
25.167	0.00	3.01	9.494	O					3.92
25.250	0.00	3.00	9.473	O					3.92
25.333	0.00	3.00	9.453	O					3.91
25.417	0.00	3.00	9.432	O					3.90
25.500	0.00	3.00	9.411	O					3.90
25.583	0.00	3.00	9.391	O					3.89

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

25.667	0.00	2.99	9.370	IO					3.88
25.750	0.00	2.99	9.350	IO					3.88
25.833	0.00	2.99	9.329	IO					3.87
25.917	0.00	2.99	9.308	IO					3.87
26.000	0.00	2.98	9.288	IO					3.86
26.083	0.00	2.98	9.267	IO					3.85
26.167	0.00	2.98	9.247	IO					3.85
26.250	0.00	2.98	9.226	IO					3.84
26.333	0.00	2.98	9.206	IO					3.83
26.417	0.00	2.97	9.185	IO					3.83
26.500	0.00	2.97	9.165	IO					3.82
26.583	0.00	2.97	9.144	IO					3.81
26.667	0.00	2.97	9.124	IO					3.81
26.750	0.00	2.97	9.103	IO					3.80
26.833	0.00	2.96	9.083	IO					3.79
26.917	0.00	2.96	9.063	IO					3.79
27.000	0.00	2.96	9.042	IO					3.78
27.083	0.00	2.96	9.022	IO					3.78
27.167	0.00	2.96	9.001	IO					3.77
27.250	0.00	2.95	8.981	IO					3.76
27.333	0.00	2.95	8.961	IO					3.76
27.417	0.00	2.95	8.940	IO					3.75
27.500	0.00	2.95	8.920	IO					3.74
27.583	0.00	2.95	8.900	IO					3.74
27.667	0.00	2.94	8.879	IO					3.73
27.750	0.00	2.94	8.859	IO					3.73
27.833	0.00	2.94	8.839	IO					3.72
27.917	0.00	2.94	8.819	IO					3.71
28.000	0.00	2.94	8.798	IO					3.71
28.083	0.00	2.93	8.778	IO					3.70
28.167	0.00	2.93	8.758	IO					3.69
28.250	0.00	2.93	8.738	IO					3.69
28.333	0.00	2.93	8.718	IO					3.68
28.417	0.00	2.93	8.698	IO					3.67
28.500	0.00	2.92	8.677	IO					3.67
28.583	0.00	2.92	8.657	IO					3.66
28.667	0.00	2.92	8.637	IO					3.66
28.750	0.00	2.92	8.617	IO					3.65
28.833	0.00	2.92	8.597	IO					3.64
28.917	0.00	2.91	8.577	IO					3.64
29.000	0.00	2.91	8.557	IO					3.63
29.083	0.00	2.91	8.537	IO					3.62
29.167	0.00	2.91	8.517	IO					3.62
29.250	0.00	2.91	8.497	IO					3.61
29.333	0.00	2.90	8.477	IO					3.61
29.417	0.00	2.90	8.457	IO					3.60
29.500	0.00	2.90	8.437	IO					3.59
29.583	0.00	2.90	8.417	IO					3.59
29.667	0.00	2.90	8.397	IO					3.58
29.750	0.00	2.89	8.377	IO					3.57
29.833	0.00	2.89	8.357	IO					3.57
29.917	0.00	2.89	8.337	IO					3.56
30.000	0.00	2.89	8.317	IO					3.56
30.083	0.00	2.89	8.297	IO					3.55
30.167	0.00	2.88	8.277	IO					3.54
30.250	0.00	2.88	8.258	IO					3.54
30.333	0.00	2.88	8.238	IO					3.53
30.417	0.00	2.88	8.218	IO					3.53
30.500	0.00	2.88	8.198	IO					3.52
30.583	0.00	2.87	8.178	IO					3.51
30.667	0.00	2.87	8.159	IO					3.51
30.750	0.00	2.87	8.139	IO					3.50
30.833	0.00	2.87	8.119	IO					3.49

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

30.917	0.00	2.87	8.099	IO					3.49
31.000	0.00	2.86	8.079	IO					3.48
31.083	0.00	2.86	8.060	IO					3.48
31.167	0.00	2.86	8.040	IO					3.47
31.250	0.00	2.86	8.020	IO					3.46
31.333	0.00	2.86	8.001	IO					3.46
31.417	0.00	2.85	7.981	IO					3.45
31.500	0.00	2.85	7.961	IO					3.45
31.583	0.00	2.85	7.942	IO					3.44
31.667	0.00	2.85	7.922	IO					3.43
31.750	0.00	2.85	7.903	IO					3.43
31.833	0.00	2.84	7.883	IO					3.42
31.917	0.00	2.84	7.863	IO					3.41
32.000	0.00	2.84	7.844	IO					3.41
32.083	0.00	2.84	7.824	IO					3.40
32.167	0.00	2.84	7.805	IO					3.40
32.250	0.00	2.83	7.785	IO					3.39
32.333	0.00	2.83	7.766	IO					3.38
32.417	0.00	2.83	7.746	IO					3.38
32.500	0.00	2.83	7.727	IO					3.37
32.583	0.00	2.83	7.707	IO					3.37
32.667	0.00	2.83	7.688	IO					3.36
32.750	0.00	2.82	7.668	IO					3.35
32.833	0.00	2.82	7.649	IO					3.35
32.917	0.00	2.82	7.629	IO					3.34
33.000	0.00	2.82	7.610	IO					3.34
33.083	0.00	2.82	7.591	IO					3.33
33.167	0.00	2.81	7.571	IO					3.32
33.250	0.00	2.81	7.552	IO					3.32
33.333	0.00	2.81	7.532	IO					3.31
33.417	0.00	2.81	7.513	IO					3.31
33.500	0.00	2.81	7.494	IO					3.30
33.583	0.00	2.80	7.474	IO					3.29
33.667	0.00	2.80	7.455	IO					3.29
33.750	0.00	2.80	7.436	IO					3.28
33.833	0.00	2.80	7.417	IO					3.28
33.917	0.00	2.80	7.397	IO					3.27
34.000	0.00	2.79	7.378	IO					3.26
34.083	0.00	2.79	7.359	IO					3.26
34.167	0.00	2.79	7.340	IO					3.25
34.250	0.00	2.79	7.320	IO					3.25
34.333	0.00	2.79	7.301	IO					3.24
34.417	0.00	2.78	7.282	IO					3.23
34.500	0.00	2.78	7.263	IO					3.23
34.583	0.00	2.78	7.244	IO					3.22
34.667	0.00	2.78	7.225	IO					3.22
34.750	0.00	2.78	7.205	IO					3.21
34.833	0.00	2.78	7.186	IO					3.20
34.917	0.00	2.77	7.167	IO					3.20
35.000	0.00	2.77	7.148	IO					3.19
35.083	0.00	2.77	7.129	IO					3.19
35.167	0.00	2.77	7.110	IO					3.18
35.250	0.00	2.77	7.091	IO					3.17
35.333	0.00	2.76	7.072	IO					3.17
35.417	0.00	2.76	7.053	IO					3.16
35.500	0.00	2.76	7.034	IO					3.16
35.583	0.00	2.76	7.015	IO					3.15
35.667	0.00	2.76	6.996	IO					3.14
35.750	0.00	2.75	6.977	IO					3.14
35.833	0.00	2.75	6.958	IO					3.13
35.917	0.00	2.75	6.939	IO					3.13
36.000	0.00	2.75	6.920	IO					3.12
36.083	0.00	2.75	6.901	IO					3.11

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

36.167	0.00	2.74	6.882	IO					3.11
36.250	0.00	2.74	6.863	IO					3.10
36.333	0.00	2.74	6.844	IO					3.10
36.417	0.00	2.74	6.826	IO					3.09
36.500	0.00	2.74	6.807	IO					3.09
36.583	0.00	2.74	6.788	IO					3.08
36.667	0.00	2.73	6.769	IO					3.07
36.750	0.00	2.73	6.750	IO					3.07
36.833	0.00	2.73	6.731	IO					3.06
36.917	0.00	2.73	6.713	IO					3.06
37.000	0.00	2.73	6.694	IO					3.05
37.083	0.00	2.72	6.675	IO					3.04
37.167	0.00	2.72	6.656	IO					3.04
37.250	0.00	2.72	6.638	IO					3.03
37.333	0.00	2.72	6.619	IO					3.03
37.417	0.00	2.72	6.600	IO					3.02
37.500	0.00	2.71	6.581	IO					3.01
37.583	0.00	2.71	6.563	IO					3.01
37.667	0.00	2.71	6.544	IO					3.00
37.750	0.00	2.71	6.525	IO					3.00
37.833	0.00	2.71	6.507	IO					2.99
37.917	0.00	2.70	6.488	IO					2.98
38.000	0.00	2.70	6.469	IO					2.98
38.083	0.00	2.70	6.451	IO					2.97
38.167	0.00	2.70	6.432	IO					2.96
38.250	0.00	2.69	6.414	IO					2.96
38.333	0.00	2.69	6.395	IO					2.95
38.417	0.00	2.69	6.377	IO					2.94
38.500	0.00	2.69	6.358	IO					2.94
38.583	0.00	2.68	6.340	IO					2.93
38.667	0.00	2.68	6.321	IO					2.92
38.750	0.00	2.68	6.303	IO					2.92
38.833	0.00	2.68	6.284	IO					2.91
38.917	0.00	2.67	6.266	IO					2.90
39.000	0.00	2.67	6.247	IO					2.89
39.083	0.00	2.67	6.229	IO					2.89
39.167	0.00	2.67	6.211	IO					2.88
39.250	0.00	2.66	6.192	IO					2.87
39.333	0.00	2.66	6.174	IO					2.87
39.417	0.00	2.66	6.156	IO					2.86
39.500	0.00	2.66	6.137	IO					2.85
39.583	0.00	2.65	6.119	IO					2.85
39.667	0.00	2.65	6.101	IO					2.84
39.750	0.00	2.65	6.083	IO					2.83
39.833	0.00	2.65	6.064	IO					2.83
39.917	0.00	2.64	6.046	IO					2.82
40.000	0.00	2.64	6.028	IO					2.81
40.083	0.00	2.64	6.010	IO					2.81
40.167	0.00	2.64	5.992	IO					2.80
40.250	0.00	2.63	5.973	IO					2.79
40.333	0.00	2.63	5.955	IO					2.79
40.417	0.00	2.63	5.937	IO					2.78
40.500	0.00	2.63	5.919	IO					2.77
40.583	0.00	2.62	5.901	IO					2.77
40.667	0.00	2.62	5.883	IO					2.76
40.750	0.00	2.62	5.865	IO					2.75
40.833	0.00	2.62	5.847	IO					2.75
40.917	0.00	2.61	5.829	IO					2.74
41.000	0.00	2.61	5.811	IO					2.73
41.083	0.00	2.61	5.793	IO					2.73
41.167	0.00	2.61	5.775	IO					2.72
41.250	0.00	2.60	5.757	IO					2.72
41.333	0.00	2.60	5.739	IO					2.71



## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

41.417	0.00	2.60	5.721	IO					2.70
41.500	0.00	2.60	5.703	IO					2.70
41.583	0.00	2.59	5.685	IO					2.69
41.667	0.00	2.59	5.667	IO					2.68
41.750	0.00	2.59	5.650	IO					2.68
41.833	0.00	2.59	5.632	IO					2.67
41.917	0.00	2.59	5.614	IO					2.66
42.000	0.00	2.58	5.596	IO					2.66
42.083	0.00	2.58	5.578	IO					2.65
42.167	0.00	2.58	5.561	IO					2.64
42.250	0.00	2.58	5.543	IO					2.64
42.333	0.00	2.57	5.525	IO					2.63
42.417	0.00	2.57	5.507	IO					2.62
42.500	0.00	2.57	5.490	IO					2.62
42.583	0.00	2.57	5.472	IO					2.61
42.667	0.00	2.56	5.454	IO					2.60
42.750	0.00	2.56	5.437	IO					2.60
42.833	0.00	2.56	5.419	IO					2.59
42.917	0.00	2.56	5.402	IO					2.58
43.000	0.00	2.55	5.384	IO					2.58
43.083	0.00	2.55	5.366	IO					2.57
43.167	0.00	2.55	5.349	IO					2.57
43.250	0.00	2.55	5.331	IO					2.56
43.333	0.00	2.54	5.314	IO					2.55
43.417	0.00	2.54	5.296	IO					2.55
43.500	0.00	2.54	5.279	IO					2.54
43.583	0.00	2.54	5.261	IO					2.53
43.667	0.00	2.54	5.244	IO					2.53
43.750	0.00	2.53	5.226	IO					2.52
43.833	0.00	2.53	5.209	IO					2.51
43.917	0.00	2.53	5.191	IO					2.51
44.000	0.00	2.53	5.174	IO					2.50
44.083	0.00	2.52	5.157	IO					2.50
44.167	0.00	2.52	5.139	IO					2.49
44.250	0.00	2.52	5.122	IO					2.48
44.333	0.00	2.52	5.105	IO					2.48
44.417	0.00	2.51	5.087	IO					2.47
44.500	0.00	2.51	5.070	IO					2.46
44.583	0.00	2.51	5.053	IO					2.46
44.667	0.00	2.51	5.035	IO					2.45
44.750	0.00	2.50	5.018	IO					2.44
44.833	0.00	2.50	5.001	IO					2.44
44.917	0.00	2.50	4.984	IO					2.43
45.000	0.00	2.50	4.966	IO					2.43
45.083	0.00	2.50	4.949	IO					2.42
45.167	0.00	2.49	4.932	IO					2.41
45.250	0.00	2.49	4.915	IO					2.41
45.333	0.00	2.49	4.898	IO					2.40
45.417	0.00	2.49	4.881	IO					2.39
45.500	0.00	2.48	4.864	IO					2.39
45.583	0.00	2.48	4.846	IO					2.38
45.667	0.00	2.48	4.829	IO					2.38
45.750	0.00	2.48	4.812	IO					2.37
45.833	0.00	2.47	4.795	IO					2.36
45.917	0.00	2.47	4.778	IO					2.36
46.000	0.00	2.47	4.761	IO					2.35
46.083	0.00	2.47	4.744	IO					2.34
46.167	0.00	2.46	4.727	IO					2.34
46.250	0.00	2.46	4.710	IO					2.33
46.333	0.00	2.46	4.693	IO					2.33
46.417	0.00	2.46	4.676	IO					2.32
46.500	0.00	2.46	4.659	IO					2.31
46.583	0.00	2.45	4.643	IO					2.31

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

46.667	0.00	2.45	4.626	IO					2.30
46.750	0.00	2.45	4.609	IO					2.29
46.833	0.00	2.45	4.592	IO					2.29
46.917	0.00	2.44	4.575	IO					2.28
47.000	0.00	2.44	4.558	IO					2.28
47.083	0.00	2.44	4.541	IO					2.27
47.167	0.00	2.44	4.525	IO					2.26
47.250	0.00	2.44	4.508	IO					2.26
47.333	0.00	2.43	4.491	IO					2.25
47.417	0.00	2.43	4.474	IO					2.25
47.500	0.00	2.43	4.458	IO					2.24
47.583	0.00	2.43	4.441	IO					2.23
47.667	0.00	2.42	4.424	IO					2.23
47.750	0.00	2.42	4.408	IO					2.22
47.833	0.00	2.42	4.391	IO					2.21
47.917	0.00	2.42	4.374	IO					2.21
48.000	0.00	2.41	4.358	IO					2.20
48.083	0.00	2.41	4.341	IO					2.20
48.167	0.00	2.41	4.324	IO					2.19
48.250	0.00	2.41	4.308	IO					2.18
48.333	0.00	2.41	4.291	IO					2.18
48.417	0.00	2.40	4.275	IO					2.17
48.500	0.00	2.40	4.258	IO					2.17
48.583	0.00	2.40	4.242	IO					2.16
48.667	0.00	2.40	4.225	IO					2.15
48.750	0.00	2.39	4.209	IO					2.15
48.833	0.00	2.39	4.192	IO					2.14
48.917	0.00	2.39	4.176	IO					2.14
49.000	0.00	2.39	4.159	IO					2.13
49.083	0.00	2.39	4.143	IO					2.12
49.167	0.00	2.38	4.126	IO					2.12
49.250	0.00	2.38	4.110	IO					2.11
49.333	0.00	2.38	4.093	IO					2.11
49.417	0.00	2.38	4.077	IO					2.10
49.500	0.00	2.37	4.061	IO					2.09
49.583	0.00	2.37	4.044	IO					2.09
49.667	0.00	2.37	4.028	IO					2.08
49.750	0.00	2.37	4.012	IO					2.08
49.833	0.00	2.37	3.995	IO					2.07
49.917	0.00	2.36	3.979	IO					2.06
50.000	0.00	2.36	3.963	IO					2.06
50.083	0.00	2.36	3.947	IO					2.05
50.167	0.00	2.36	3.930	IO					2.05
50.250	0.00	2.35	3.914	IO					2.04
50.333	0.00	2.35	3.898	IO					2.03
50.417	0.00	2.35	3.882	IO					2.03
50.500	0.00	2.35	3.866	IO					2.02
50.583	0.00	2.35	3.849	IO					2.02
50.667	0.00	2.34	3.833	IO					2.01
50.750	0.00	2.34	3.817	IO					2.00
50.833	0.00	2.34	3.801	IO					2.00
50.917	0.00	2.34	3.785	IO					1.99
51.000	0.00	2.33	3.769	IO					1.98
51.083	0.00	2.33	3.753	IO					1.97
51.167	0.00	2.33	3.737	IO					1.97
51.250	0.00	2.32	3.721	IO					1.96
51.333	0.00	2.32	3.705	IO					1.95
51.417	0.00	2.32	3.689	IO					1.94
51.500	0.00	2.31	3.673	IO					1.94
51.583	0.00	2.31	3.657	IO					1.93
51.667	0.00	2.31	3.641	IO					1.92
51.750	0.00	2.30	3.625	IO					1.91
51.833	0.00	2.30	3.609	IO					1.91

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

51.917	0.00	2.30	3.594	IO					1.90
52.000	0.00	2.29	3.578	IO					1.89
52.083	0.00	2.29	3.562	IO					1.88
52.167	0.00	2.29	3.546	IO					1.88
52.250	0.00	2.28	3.530	IO					1.87
52.333	0.00	2.28	3.515	IO					1.86
52.417	0.00	2.28	3.499	IO					1.85
52.500	0.00	2.27	3.483	IO					1.85
52.583	0.00	2.27	3.468	IO					1.84
52.667	0.00	2.27	3.452	IO					1.83
52.750	0.00	2.26	3.436	IO					1.83
52.833	0.00	2.26	3.421	IO					1.82
52.917	0.00	2.26	3.405	IO					1.81
53.000	0.00	2.26	3.390	IO					1.80
53.083	0.00	2.25	3.374	IO					1.80
53.167	0.00	2.25	3.359	IO					1.79
53.250	0.00	2.25	3.343	IO					1.78
53.333	0.00	2.24	3.328	IO					1.77
53.417	0.00	2.24	3.312	IO					1.77
53.500	0.00	2.24	3.297	IO					1.76
53.583	0.00	2.23	3.282	IO					1.75
53.667	0.00	2.23	3.266	IO					1.74
53.750	0.00	2.23	3.251	IO					1.74
53.833	0.00	2.22	3.235	IO					1.73
53.917	0.00	2.22	3.220	IO					1.72
54.000	0.00	2.22	3.205	IO					1.72
54.083	0.00	2.21	3.190	IO					1.71
54.167	0.00	2.21	3.174	IO					1.70
54.250	0.00	2.21	3.159	IO					1.69
54.333	0.00	2.21	3.144	IO					1.69
54.417	0.00	2.20	3.129	IO					1.68
54.500	0.00	2.20	3.114	IO					1.67
54.583	0.00	2.20	3.099	IO					1.67
54.667	0.00	2.19	3.083	IO					1.66
54.750	0.00	2.19	3.068	IO					1.65
54.833	0.00	2.19	3.053	IO					1.64
54.917	0.00	2.18	3.038	IO					1.64
55.000	0.00	2.18	3.023	IO					1.63
55.083	0.00	2.18	3.008	IO					1.62
55.167	0.00	2.17	2.993	IO					1.62
55.250	0.00	2.17	2.978	IO					1.61
55.333	0.00	2.17	2.963	IO					1.60
55.417	0.00	2.17	2.948	IO					1.59
55.500	0.00	2.16	2.933	IO					1.59
55.583	0.00	2.16	2.919	IO					1.58
55.667	0.00	2.16	2.904	IO					1.57
55.750	0.00	2.15	2.889	IO					1.57
55.833	0.00	2.15	2.874	IO					1.56
55.917	0.00	2.15	2.859	IO					1.55
56.000	0.00	2.14	2.844	IO					1.54
56.083	0.00	2.14	2.830	IO					1.54
56.167	0.00	2.14	2.815	IO					1.53
56.250	0.00	2.14	2.800	IO					1.52
56.333	0.00	2.13	2.786	IO					1.52
56.417	0.00	2.13	2.771	IO					1.51
56.500	0.00	2.13	2.756	IO					1.50
56.583	0.00	2.12	2.742	IO					1.50
56.667	0.00	2.12	2.727	IO					1.49
56.750	0.00	2.12	2.712	IO					1.48
56.833	0.00	2.11	2.698	IO					1.48
56.917	0.00	2.11	2.683	IO					1.47
57.000	0.00	2.11	2.669	IO					1.46
57.083	0.00	2.11	2.654	IO					1.45

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

57.167	0.00	2.10	2.640	IO					1.45
57.250	0.00	2.10	2.625	IO					1.44
57.333	0.00	2.10	2.611	IO					1.43
57.417	0.00	2.09	2.596	IO					1.43
57.500	0.00	2.09	2.582	IO					1.42
57.583	0.00	2.09	2.568	O					1.41
57.667	0.00	2.09	2.553	O					1.41
57.750	0.00	2.08	2.539	O					1.40
57.833	0.00	2.08	2.525	O					1.39
57.917	0.00	2.08	2.510	O					1.39
58.000	0.00	2.07	2.496	O					1.38
58.083	0.00	2.07	2.482	O					1.37
58.167	0.00	2.07	2.467	O					1.37
58.250	0.00	2.06	2.453	O					1.36
58.333	0.00	2.06	2.439	O					1.35
58.417	0.00	2.06	2.425	O					1.35
58.500	0.00	2.06	2.411	O					1.34
58.583	0.00	2.05	2.396	O					1.33
58.667	0.00	2.05	2.382	O					1.33
58.750	0.00	2.05	2.368	O					1.32
58.833	0.00	2.04	2.354	O					1.31
58.917	0.00	2.04	2.340	O					1.31
59.000	0.00	2.04	2.326	O					1.30
59.083	0.00	2.04	2.312	O					1.29
59.167	0.00	2.03	2.298	O					1.29
59.250	0.00	2.03	2.284	O					1.28
59.333	0.00	2.03	2.270	O					1.27
59.417	0.00	2.02	2.256	O					1.27
59.500	0.00	2.02	2.242	O					1.26
59.583	0.00	2.02	2.228	O					1.25
59.667	0.00	2.02	2.214	O					1.25
59.750	0.00	2.01	2.200	O					1.24
59.833	0.00	2.01	2.187	O					1.23
59.917	0.00	2.01	2.173	O					1.23
60.000	0.00	2.00	2.159	O					1.22
60.083	0.00	2.00	2.145	O					1.21
60.167	0.00	2.00	2.131	O					1.21
60.250	0.00	2.00	2.118	O					1.20
60.333	0.00	1.99	2.104	O					1.19
60.417	0.00	1.99	2.090	O					1.19
60.500	0.00	1.99	2.076	O					1.18
60.583	0.00	1.99	2.063	O					1.17
60.667	0.00	1.98	2.049	O					1.17
60.750	0.00	1.98	2.035	O					1.16
60.833	0.00	1.98	2.022	O					1.16
60.917	0.00	1.97	2.008	O					1.15
61.000	0.00	1.97	1.995	O					1.14
61.083	0.00	1.97	1.981	O					1.14
61.167	0.00	1.97	1.967	O					1.13
61.250	0.00	1.96	1.954	O					1.12
61.333	0.00	1.96	1.940	O					1.12
61.417	0.00	1.96	1.927	O					1.11
61.500	0.00	1.95	1.913	O					1.10
61.583	0.00	1.95	1.900	O					1.10
61.667	0.00	1.95	1.887	O					1.09
61.750	0.00	1.95	1.873	O					1.09
61.833	0.00	1.94	1.860	O					1.08
61.917	0.00	1.94	1.846	O					1.07
62.000	0.00	1.94	1.833	O					1.07
62.083	0.00	1.94	1.820	O					1.06
62.167	0.00	1.93	1.806	O					1.05
62.250	0.00	1.93	1.793	O					1.05
62.333	0.00	1.93	1.780	O					1.04

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

62.417	0.00	1.92	1.767	0					1.03
62.500	0.00	1.92	1.753	0					1.03
62.583	0.00	1.92	1.740	0					1.02
62.667	0.00	1.92	1.727	0					1.02
62.750	0.00	1.91	1.714	0					1.01
62.833	0.00	1.91	1.700	0					1.00
62.917	0.00	1.90	1.687	0					1.00
63.000	0.00	1.89	1.674	0					0.99
63.083	0.00	1.87	1.661	0					0.98
63.167	0.00	1.86	1.648	0					0.97
63.250	0.00	1.85	1.636	0					0.97
63.333	0.00	1.83	1.623	0					0.96
63.417	0.00	1.82	1.610	0					0.95
63.500	0.00	1.80	1.598	0					0.94
63.583	0.00	1.79	1.586	0					0.94
63.667	0.00	1.78	1.573	0					0.93
63.750	0.00	1.76	1.561	0					0.92
63.833	0.00	1.75	1.549	0					0.92
63.917	0.00	1.73	1.537	0					0.91
64.000	0.00	1.72	1.525	0					0.90
64.083	0.00	1.71	1.513	0					0.89
64.167	0.00	1.69	1.502	0					0.89
64.250	0.00	1.68	1.490	0					0.88
64.333	0.00	1.67	1.479	0					0.87
64.417	0.00	1.66	1.467	0					0.87
64.500	0.00	1.64	1.456	0					0.86
64.583	0.00	1.63	1.444	0					0.85
64.667	0.00	1.62	1.433	0					0.85
64.750	0.00	1.60	1.422	0					0.84
64.833	0.00	1.59	1.411	0					0.83
64.917	0.00	1.58	1.400	0					0.83
65.000	0.00	1.57	1.389	0					0.82
65.083	0.00	1.56	1.379	0					0.81
65.167	0.00	1.54	1.368	0					0.81
65.250	0.00	1.53	1.357	0					0.80
65.333	0.00	1.52	1.347	0					0.80
65.417	0.00	1.51	1.336	0					0.79
65.500	0.00	1.50	1.326	0					0.78
65.583	0.00	1.48	1.316	0					0.78
65.667	0.00	1.47	1.306	0					0.77
65.750	0.00	1.46	1.296	0					0.77
65.833	0.00	1.45	1.286	0					0.76
65.917	0.00	1.44	1.276	0					0.75
66.000	0.00	1.43	1.266	0					0.75
66.083	0.00	1.42	1.256	0					0.74
66.167	0.00	1.41	1.246	0					0.74
66.250	0.00	1.40	1.237	0					0.73
66.333	0.00	1.38	1.227	0					0.72
66.417	0.00	1.37	1.218	0					0.72
66.500	0.00	1.36	1.208	0					0.71
66.583	0.00	1.35	1.199	0					0.71
66.667	0.00	1.34	1.189	0					0.70
66.750	0.00	1.33	1.180	0					0.70
66.833	0.00	1.32	1.171	0					0.69
66.917	0.00	1.31	1.162	0					0.69
67.000	0.00	1.30	1.153	0					0.68
67.083	0.00	1.29	1.144	0					0.68
67.167	0.00	1.28	1.135	0					0.67
67.250	0.00	1.27	1.126	0					0.67
67.333	0.00	1.26	1.118	0					0.66
67.417	0.00	1.25	1.109	0					0.66
67.500	0.00	1.24	1.101	0					0.65
67.583	0.00	1.23	1.092	0					0.65

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

67.667	0.00	1.22	1.084	0					0.64
67.750	0.00	1.21	1.075	0					0.64
67.833	0.00	1.20	1.067	0					0.63
67.917	0.00	1.19	1.059	0					0.63
68.000	0.00	1.19	1.050	0					0.62
68.083	0.00	1.18	1.042	0					0.62
68.167	0.00	1.17	1.034	0					0.61
68.250	0.00	1.16	1.026	0					0.61
68.333	0.00	1.15	1.018	0					0.60
68.417	0.00	1.14	1.010	0					0.60
68.500	0.00	1.13	1.003	0					0.59
68.583	0.00	1.12	0.995	0					0.59
68.667	0.00	1.11	0.987	0					0.58
68.750	0.00	1.11	0.979	0					0.58
68.833	0.00	1.10	0.972	0					0.57
68.917	0.00	1.09	0.964	0					0.57
69.000	0.00	1.08	0.957	0					0.57
69.083	0.00	1.07	0.949	0					0.56
69.167	0.00	1.06	0.942	0					0.56
69.250	0.00	1.05	0.935	0					0.55
69.333	0.00	1.05	0.928	0					0.55
69.417	0.00	1.04	0.920	0					0.54
69.500	0.00	1.03	0.913	0					0.54
69.583	0.00	1.02	0.906	0					0.54
69.667	0.00	1.01	0.899	0					0.53
69.750	0.00	1.01	0.892	0					0.53
69.833	0.00	1.00	0.885	0					0.52
69.917	0.00	0.99	0.879	0					0.52
70.000	0.00	0.98	0.872	0					0.51
70.083	0.00	0.98	0.865	0					0.51
70.167	0.00	0.97	0.858	0					0.51
70.250	0.00	0.96	0.852	0					0.50
70.333	0.00	0.95	0.845	0					0.50
70.417	0.00	0.95	0.838	0					0.50
70.500	0.00	0.94	0.832	0					0.49
70.583	0.00	0.93	0.826	0					0.49
70.667	0.00	0.92	0.819	0					0.48
70.750	0.00	0.92	0.813	0					0.48
70.833	0.00	0.91	0.807	0					0.48
70.917	0.00	0.90	0.800	0					0.47
71.000	0.00	0.90	0.794	0					0.47
71.083	0.00	0.89	0.788	0					0.47
71.167	0.00	0.88	0.782	0					0.46
71.250	0.00	0.88	0.776	0					0.46
71.333	0.00	0.87	0.770	0					0.45
71.417	0.00	0.86	0.764	0					0.45
71.500	0.00	0.86	0.758	0					0.45
71.583	0.00	0.85	0.752	0					0.44
71.667	0.00	0.84	0.746	0					0.44
71.750	0.00	0.84	0.740	0					0.44
71.833	0.00	0.83	0.735	0					0.43
71.917	0.00	0.82	0.729	0					0.43
72.000	0.00	0.82	0.723	0					0.43
72.083	0.00	0.81	0.718	0					0.42
72.167	0.00	0.80	0.712	0					0.42
72.250	0.00	0.80	0.707	0					0.42
72.333	0.00	0.79	0.701	0					0.41
72.417	0.00	0.79	0.696	0					0.41
72.500	0.00	0.78	0.690	0					0.41
72.583	0.00	0.77	0.685	0					0.40
72.667	0.00	0.77	0.680	0					0.40
72.750	0.00	0.76	0.675	0					0.40
72.833	0.00	0.76	0.669	0					0.40

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

72.917	0.00	0.75	0.664	0					0.39
73.000	0.00	0.74	0.659	0					0.39
73.083	0.00	0.74	0.654	0					0.39
73.167	0.00	0.73	0.649	0					0.38
73.250	0.00	0.73	0.644	0					0.38
73.333	0.00	0.72	0.639	0					0.38
73.417	0.00	0.72	0.634	0					0.37
73.500	0.00	0.71	0.629	0					0.37
73.583	0.00	0.70	0.624	0					0.37
73.667	0.00	0.70	0.619	0					0.37
73.750	0.00	0.69	0.615	0					0.36
73.833	0.00	0.69	0.610	0					0.36
73.917	0.00	0.68	0.605	0					0.36
74.000	0.00	0.68	0.600	0					0.35
74.083	0.00	0.67	0.596	0					0.35
74.167	0.00	0.67	0.591	0					0.35
74.250	0.00	0.66	0.587	0					0.35
74.333	0.00	0.66	0.582	0					0.34
74.417	0.00	0.65	0.577	0					0.34
74.500	0.00	0.65	0.573	0					0.34
74.583	0.00	0.64	0.569	0					0.34
74.667	0.00	0.64	0.564	0					0.33
74.750	0.00	0.63	0.560	0					0.33
74.833	0.00	0.63	0.555	0					0.33
74.917	0.00	0.62	0.551	0					0.33
75.000	0.00	0.62	0.547	0					0.32
75.083	0.00	0.61	0.543	0					0.32
75.167	0.00	0.61	0.538	0					0.32
75.250	0.00	0.60	0.534	0					0.32
75.333	0.00	0.60	0.530	0					0.31
75.417	0.00	0.59	0.526	0					0.31
75.500	0.00	0.59	0.522	0					0.31
75.583	0.00	0.58	0.518	0					0.31
75.667	0.00	0.58	0.514	0					0.30
75.750	0.00	0.58	0.510	0					0.30
75.833	0.00	0.57	0.506	0					0.30
75.917	0.00	0.57	0.502	0					0.30
76.000	0.00	0.56	0.498	0					0.29
76.083	0.00	0.56	0.494	0					0.29
76.167	0.00	0.55	0.491	0					0.29
76.250	0.00	0.55	0.487	0					0.29
76.333	0.00	0.54	0.483	0					0.29
76.417	0.00	0.54	0.479	0					0.28
76.500	0.00	0.54	0.476	0					0.28
76.583	0.00	0.53	0.472	0					0.28
76.667	0.00	0.53	0.468	0					0.28
76.750	0.00	0.52	0.465	0					0.27
76.833	0.00	0.52	0.461	0					0.27
76.917	0.00	0.52	0.457	0					0.27
77.000	0.00	0.51	0.454	0					0.27
77.083	0.00	0.51	0.450	0					0.27
77.167	0.00	0.50	0.447	0					0.26
77.250	0.00	0.50	0.443	0					0.26
77.333	0.00	0.50	0.440	0					0.26
77.417	0.00	0.49	0.437	0					0.26
77.500	0.00	0.49	0.433	0					0.26
77.583	0.00	0.48	0.430	0					0.25
77.667	0.00	0.48	0.427	0					0.25
77.750	0.00	0.48	0.423	0					0.25
77.833	0.00	0.47	0.420	0					0.25
77.917	0.00	0.47	0.417	0					0.25
78.000	0.00	0.47	0.413	0					0.24
78.083	0.00	0.46	0.410	0					0.24

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

78.167	0.00	0.46	0.407	0					0.24
78.250	0.00	0.46	0.404	0					0.24
78.333	0.00	0.45	0.401	0					0.24
78.417	0.00	0.45	0.398	0					0.23
78.500	0.00	0.45	0.395	0					0.23
78.583	0.00	0.44	0.392	0					0.23
78.667	0.00	0.44	0.389	0					0.23
78.750	0.00	0.43	0.386	0					0.23
78.833	0.00	0.43	0.383	0					0.23
78.917	0.00	0.43	0.380	0					0.22
79.000	0.00	0.42	0.377	0					0.22
79.083	0.00	0.42	0.374	0					0.22
79.167	0.00	0.42	0.371	0					0.22
79.250	0.00	0.42	0.368	0					0.22
79.333	0.00	0.41	0.365	0					0.22
79.417	0.00	0.41	0.362	0					0.21
79.500	0.00	0.41	0.359	0					0.21
79.583	0.00	0.40	0.357	0					0.21
79.667	0.00	0.40	0.354	0					0.21
79.750	0.00	0.40	0.351	0					0.21
79.833	0.00	0.39	0.348	0					0.21
79.917	0.00	0.39	0.346	0					0.20
80.000	0.00	0.39	0.343	0					0.20
80.083	0.00	0.38	0.340	0					0.20
80.167	0.00	0.38	0.338	0					0.20
80.250	0.00	0.38	0.335	0					0.20
80.333	0.00	0.38	0.333	0					0.20
80.417	0.00	0.37	0.330	0					0.19
80.500	0.00	0.37	0.327	0					0.19
80.583	0.00	0.37	0.325	0					0.19
80.667	0.00	0.36	0.322	0					0.19
80.750	0.00	0.36	0.320	0					0.19
80.833	0.00	0.36	0.317	0					0.19
80.917	0.00	0.36	0.315	0					0.19
81.000	0.00	0.35	0.313	0					0.18
81.083	0.00	0.35	0.310	0					0.18
81.167	0.00	0.35	0.308	0					0.18
81.250	0.00	0.34	0.305	0					0.18
81.333	0.00	0.34	0.303	0					0.18
81.417	0.00	0.34	0.301	0					0.18
81.500	0.00	0.34	0.298	0					0.18
81.583	0.00	0.33	0.296	0					0.17
81.667	0.00	0.33	0.294	0					0.17
81.750	0.00	0.33	0.291	0					0.17
81.833	0.00	0.33	0.289	0					0.17
81.917	0.00	0.32	0.287	0					0.17
82.000	0.00	0.32	0.285	0					0.17
82.083	0.00	0.32	0.283	0					0.17
82.167	0.00	0.32	0.280	0					0.17
82.250	0.00	0.31	0.278	0					0.16
82.333	0.00	0.31	0.276	0					0.16
82.417	0.00	0.31	0.274	0					0.16
82.500	0.00	0.31	0.272	0					0.16
82.583	0.00	0.30	0.270	0					0.16
82.667	0.00	0.30	0.268	0					0.16
82.750	0.00	0.30	0.266	0					0.16
82.833	0.00	0.30	0.263	0					0.16
82.917	0.00	0.29	0.261	0					0.15
83.000	0.00	0.29	0.259	0					0.15
83.083	0.00	0.29	0.257	0					0.15
83.167	0.00	0.29	0.255	0					0.15
83.250	0.00	0.29	0.253	0					0.15
83.333	0.00	0.28	0.251	0					0.15



**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

83.417	0.00	0.28	0.250	0					0.15
83.500	0.00	0.28	0.248	0					0.15
83.583	0.00	0.28	0.246	0					0.15
83.667	0.00	0.28	0.244	0					0.14
83.750	0.00	0.27	0.242	0					0.14
83.833	0.00	0.27	0.240	0					0.14
83.917	0.00	0.27	0.238	0					0.14
84.000	0.00	0.27	0.236	0					0.14
84.083	0.00	0.26	0.234	0					0.14
84.167	0.00	0.26	0.233	0					0.14
84.250	0.00	0.26	0.231	0					0.14
84.333	0.00	0.26	0.229	0					0.14
84.417	0.00	0.26	0.227	0					0.13
84.500	0.00	0.25	0.226	0					0.13
84.583	0.00	0.25	0.224	0					0.13
84.667	0.00	0.25	0.222	0					0.13
84.750	0.00	0.25	0.220	0					0.13
84.833	0.00	0.25	0.219	0					0.13
84.917	0.00	0.24	0.217	0					0.13
85.000	0.00	0.24	0.215	0					0.13
85.083	0.00	0.24	0.214	0					0.13
85.167	0.00	0.24	0.212	0					0.13
85.250	0.00	0.24	0.210	0					0.12
85.333	0.00	0.24	0.209	0					0.12
85.417	0.00	0.23	0.207	0					0.12
85.500	0.00	0.23	0.205	0					0.12
85.583	0.00	0.23	0.204	0					0.12
85.667	0.00	0.23	0.202	0					0.12
85.750	0.00	0.23	0.201	0					0.12
85.833	0.00	0.22	0.199	0					0.12
85.917	0.00	0.22	0.198	0					0.12
86.000	0.00	0.22	0.196	0					0.12
86.083	0.00	0.22	0.195	0					0.11
86.167	0.00	0.22	0.193	0					0.11
86.250	0.00	0.22	0.192	0					0.11
86.333	0.00	0.21	0.190	0					0.11
86.417	0.00	0.21	0.189	0					0.11
86.500	0.00	0.21	0.187	0					0.11
86.583	0.00	0.21	0.186	0					0.11
86.667	0.00	0.21	0.184	0					0.11
86.750	0.00	0.21	0.183	0					0.11
86.833	0.00	0.20	0.181	0					0.11
86.917	0.00	0.20	0.180	0					0.11
87.000	0.00	0.20	0.179	0					0.11
87.083	0.00	0.20	0.177	0					0.10
87.167	0.00	0.20	0.176	0					0.10
87.250	0.00	0.20	0.175	0					0.10
87.333	0.00	0.20	0.173	0					0.10
87.417	0.00	0.19	0.172	0					0.10
87.500	0.00	0.19	0.171	0					0.10
87.583	0.00	0.19	0.169	0					0.10
87.667	0.00	0.19	0.168	0					0.10
87.750	0.00	0.19	0.167	0					0.10
87.833	0.00	0.19	0.165	0					0.10
87.917	0.00	0.19	0.164	0					0.10
88.000	0.00	0.18	0.163	0					0.10
88.083	0.00	0.18	0.161	0					0.10
88.167	0.00	0.18	0.160	0					0.09
88.250	0.00	0.18	0.159	0					0.09
88.333	0.00	0.18	0.158	0					0.09
88.417	0.00	0.18	0.157	0					0.09
88.500	0.00	0.18	0.155	0					0.09
88.583	0.00	0.17	0.154	0					0.09

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

88.667	0.00	0.17	0.153	o					0.09
88.750	0.00	0.17	0.152	o					0.09
88.833	0.00	0.17	0.151	o					0.09
88.917	0.00	0.17	0.149	o					0.09
89.000	0.00	0.17	0.148	o					0.09
89.083	0.00	0.17	0.147	o					0.09
89.167	0.00	0.16	0.146	o					0.09
89.250	0.00	0.16	0.145	o					0.09
89.333	0.00	0.16	0.144	o					0.08
89.417	0.00	0.16	0.143	o					0.08
89.500	0.00	0.16	0.142	o					0.08
89.583	0.00	0.16	0.140	o					0.08
89.667	0.00	0.16	0.139	o					0.08
89.750	0.00	0.16	0.138	o					0.08
89.833	0.00	0.15	0.137	o					0.08
89.917	0.00	0.15	0.136	o					0.08
90.000	0.00	0.15	0.135	o					0.08
90.083	0.00	0.15	0.134	o					0.08
90.167	0.00	0.15	0.133	o					0.08
90.250	0.00	0.15	0.132	o					0.08
90.333	0.00	0.15	0.131	o					0.08
90.417	0.00	0.15	0.130	o					0.08
90.500	0.00	0.15	0.129	o					0.08
90.583	0.00	0.14	0.128	o					0.08
90.667	0.00	0.14	0.127	o					0.07
90.750	0.00	0.14	0.126	o					0.07
90.833	0.00	0.14	0.125	o					0.07
90.917	0.00	0.14	0.124	o					0.07
91.000	0.00	0.14	0.123	o					0.07
91.083	0.00	0.14	0.122	o					0.07
91.167	0.00	0.14	0.121	o					0.07
91.250	0.00	0.14	0.120	o					0.07
91.333	0.00	0.13	0.119	o					0.07
91.417	0.00	0.13	0.118	o					0.07
91.500	0.00	0.13	0.117	o					0.07
91.583	0.00	0.13	0.117	o					0.07
91.667	0.00	0.13	0.116	o					0.07
91.750	0.00	0.13	0.115	o					0.07
91.833	0.00	0.13	0.114	o					0.07
91.917	0.00	0.13	0.113	o					0.07
92.000	0.00	0.13	0.112	o					0.07
92.083	0.00	0.13	0.111	o					0.07
92.167	0.00	0.12	0.110	o					0.07
92.250	0.00	0.12	0.109	o					0.06
92.333	0.00	0.12	0.109	o					0.06
92.417	0.00	0.12	0.108	o					0.06
92.500	0.00	0.12	0.107	o					0.06
92.583	0.00	0.12	0.106	o					0.06
92.667	0.00	0.12	0.105	o					0.06
92.750	0.00	0.12	0.105	o					0.06
92.833	0.00	0.12	0.104	o					0.06
92.917	0.00	0.12	0.103	o					0.06
93.000	0.00	0.12	0.102	o					0.06
93.083	0.00	0.11	0.101	o					0.06
93.167	0.00	0.11	0.101	o					0.06
93.250	0.00	0.11	0.100	o					0.06
93.333	0.00	0.11	0.099	o					0.06
93.417	0.00	0.11	0.098	o					0.06
93.500	0.00	0.11	0.097	o					0.06
93.583	0.00	0.11	0.097	o					0.06
93.667	0.00	0.11	0.096	o					0.06
93.750	0.00	0.11	0.095	o					0.06
93.833	0.00	0.11	0.094	o					0.06

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

93.917	0.00	0.11	0.094	o					0.06
94.000	0.00	0.10	0.093	o					0.05
94.083	0.00	0.10	0.092	o					0.05
94.167	0.00	0.10	0.092	o					0.05
94.250	0.00	0.10	0.091	o					0.05
94.333	0.00	0.10	0.090	o					0.05
94.417	0.00	0.10	0.089	o					0.05
94.500	0.00	0.10	0.089	o					0.05
94.583	0.00	0.10	0.088	o					0.05
94.667	0.00	0.10	0.087	o					0.05
94.750	0.00	0.10	0.087	o					0.05
94.833	0.00	0.10	0.086	o					0.05
94.917	0.00	0.10	0.085	o					0.05
95.000	0.00	0.10	0.085	o					0.05
95.083	0.00	0.09	0.084	o					0.05
95.167	0.00	0.09	0.083	o					0.05
95.250	0.00	0.09	0.083	o					0.05
95.333	0.00	0.09	0.082	o					0.05
95.417	0.00	0.09	0.082	o					0.05
95.500	0.00	0.09	0.081	o					0.05
95.583	0.00	0.09	0.080	o					0.05
95.667	0.00	0.09	0.080	o					0.05
95.750	0.00	0.09	0.079	o					0.05
95.833	0.00	0.09	0.078	o					0.05
95.917	0.00	0.09	0.078	o					0.05
96.000	0.00	0.09	0.077	o					0.05
96.083	0.00	0.09	0.077	o					0.05
96.167	0.00	0.09	0.076	o					0.04
96.250	0.00	0.09	0.075	o					0.04
96.333	0.00	0.08	0.075	o					0.04
96.417	0.00	0.08	0.074	o					0.04
96.500	0.00	0.08	0.074	o					0.04
96.583	0.00	0.08	0.073	o					0.04
96.667	0.00	0.08	0.073	o					0.04
96.750	0.00	0.08	0.072	o					0.04
96.833	0.00	0.08	0.071	o					0.04
96.917	0.00	0.08	0.071	o					0.04
97.000	0.00	0.08	0.070	o					0.04
97.083	0.00	0.08	0.070	o					0.04
97.167	0.00	0.08	0.069	o					0.04
97.250	0.00	0.08	0.069	o					0.04
97.333	0.00	0.08	0.068	o					0.04
97.417	0.00	0.08	0.068	o					0.04
97.500	0.00	0.08	0.067	o					0.04
97.583	0.00	0.08	0.067	o					0.04
97.667	0.00	0.07	0.066	o					0.04
97.750	0.00	0.07	0.066	o					0.04
97.833	0.00	0.07	0.065	o					0.04
97.917	0.00	0.07	0.065	o					0.04
98.000	0.00	0.07	0.064	o					0.04
98.083	0.00	0.07	0.064	o					0.04
98.167	0.00	0.07	0.063	o					0.04
98.250	0.00	0.07	0.063	o					0.04
98.333	0.00	0.07	0.062	o					0.04
98.417	0.00	0.07	0.062	o					0.04
98.500	0.00	0.07	0.061	o					0.04
98.583	0.00	0.07	0.061	o					0.04
98.667	0.00	0.07	0.060	o					0.04
98.750	0.00	0.07	0.060	o					0.04
98.833	0.00	0.07	0.059	o					0.04
98.917	0.00	0.07	0.059	o					0.03
99.000	0.00	0.07	0.058	o					0.03
99.083	0.00	0.07	0.058	o					0.03

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

99.167	0.00	0.06	0.057	0					0.03
99.250	0.00	0.06	0.057	0					0.03
99.333	0.00	0.06	0.057	0					0.03
99.417	0.00	0.06	0.056	0					0.03
99.500	0.00	0.06	0.056	0					0.03
99.583	0.00	0.06	0.055	0					0.03
99.667	0.00	0.06	0.055	0					0.03
99.750	0.00	0.06	0.054	0					0.03
99.833	0.00	0.06	0.054	0					0.03
99.917	0.00	0.06	0.054	0					0.03
100.000	0.00	0.06	0.053	0					0.03
100.083	0.00	0.06	0.053	0					0.03
100.167	0.00	0.06	0.052	0					0.03
100.250	0.00	0.06	0.052	0					0.03
100.333	0.00	0.06	0.052	0					0.03
100.417	0.00	0.06	0.051	0					0.03
100.500	0.00	0.06	0.051	0					0.03
100.583	0.00	0.06	0.050	0					0.03
100.667	0.00	0.06	0.050	0					0.03
100.750	0.00	0.06	0.050	0					0.03
100.833	0.00	0.06	0.049	0					0.03
100.917	0.00	0.06	0.049	0					0.03
101.000	0.00	0.05	0.048	0					0.03
101.083	0.00	0.05	0.048	0					0.03
101.167	0.00	0.05	0.048	0					0.03
101.250	0.00	0.05	0.047	0					0.03
101.333	0.00	0.05	0.047	0					0.03
101.417	0.00	0.05	0.047	0					0.03
101.500	0.00	0.05	0.046	0					0.03
101.583	0.00	0.05	0.046	0					0.03
101.667	0.00	0.05	0.046	0					0.03
101.750	0.00	0.05	0.045	0					0.03
101.833	0.00	0.05	0.045	0					0.03
101.917	0.00	0.05	0.044	0					0.03
102.000	0.00	0.05	0.044	0					0.03
102.083	0.00	0.05	0.044	0					0.03
102.167	0.00	0.05	0.043	0					0.03
102.250	0.00	0.05	0.043	0					0.03
102.333	0.00	0.05	0.043	0					0.03
102.417	0.00	0.05	0.042	0					0.03
102.500	0.00	0.05	0.042	0					0.02
102.583	0.00	0.05	0.042	0					0.02
102.667	0.00	0.05	0.041	0					0.02
102.750	0.00	0.05	0.041	0					0.02
102.833	0.00	0.05	0.041	0					0.02
102.917	0.00	0.05	0.041	0					0.02
103.000	0.00	0.05	0.040	0					0.02
103.083	0.00	0.04	0.040	0					0.02
103.167	0.00	0.04	0.040	0					0.02
103.250	0.00	0.04	0.039	0					0.02
103.333	0.00	0.04	0.039	0					0.02
103.417	0.00	0.04	0.039	0					0.02
103.500	0.00	0.04	0.038	0					0.02
103.583	0.00	0.04	0.038	0					0.02
103.667	0.00	0.04	0.038	0					0.02
103.750	0.00	0.04	0.037	0					0.02
103.833	0.00	0.04	0.037	0					0.02
103.917	0.00	0.04	0.037	0					0.02
104.000	0.00	0.04	0.037	0					0.02
104.083	0.00	0.04	0.036	0					0.02
104.167	0.00	0.04	0.036	0					0.02
104.250	0.00	0.04	0.036	0					0.02
104.333	0.00	0.04	0.035	0					0.02

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

104.417	0.00	0.04	0.035	o					0.02
104.500	0.00	0.04	0.035	o					0.02
104.583	0.00	0.04	0.035	o					0.02
104.667	0.00	0.04	0.034	o					0.02
104.750	0.00	0.04	0.034	o					0.02
104.833	0.00	0.04	0.034	o					0.02
104.917	0.00	0.04	0.034	o					0.02
105.000	0.00	0.04	0.033	o					0.02
105.083	0.00	0.04	0.033	o					0.02
105.167	0.00	0.04	0.033	o					0.02
105.250	0.00	0.04	0.033	o					0.02
105.333	0.00	0.04	0.032	o					0.02
105.417	0.00	0.04	0.032	o					0.02
105.500	0.00	0.04	0.032	o					0.02
105.583	0.00	0.04	0.032	o					0.02
105.667	0.00	0.04	0.031	o					0.02
105.750	0.00	0.04	0.031	o					0.02
105.833	0.00	0.03	0.031	o					0.02
105.917	0.00	0.03	0.031	o					0.02
106.000	0.00	0.03	0.030	o					0.02
106.083	0.00	0.03	0.030	o					0.02
106.167	0.00	0.03	0.030	o					0.02
106.250	0.00	0.03	0.030	o					0.02
106.333	0.00	0.03	0.029	o					0.02
106.417	0.00	0.03	0.029	o					0.02
106.500	0.00	0.03	0.029	o					0.02
106.583	0.00	0.03	0.029	o					0.02
106.667	0.00	0.03	0.029	o					0.02
106.750	0.00	0.03	0.028	o					0.02
106.833	0.00	0.03	0.028	o					0.02
106.917	0.00	0.03	0.028	o					0.02
107.000	0.00	0.03	0.028	o					0.02
107.083	0.00	0.03	0.027	o					0.02
107.167	0.00	0.03	0.027	o					0.02
107.250	0.00	0.03	0.027	o					0.02
107.333	0.00	0.03	0.027	o					0.02
107.417	0.00	0.03	0.027	o					0.02
107.500	0.00	0.03	0.026	o					0.02
107.583	0.00	0.03	0.026	o					0.02
107.667	0.00	0.03	0.026	o					0.02
107.750	0.00	0.03	0.026	o					0.02
107.833	0.00	0.03	0.026	o					0.02
107.917	0.00	0.03	0.025	o					0.02
108.000	0.00	0.03	0.025	o					0.01
108.083	0.00	0.03	0.025	o					0.01
108.167	0.00	0.03	0.025	o					0.01
108.250	0.00	0.03	0.025	o					0.01
108.333	0.00	0.03	0.024	o					0.01
108.417	0.00	0.03	0.024	o					0.01
108.500	0.00	0.03	0.024	o					0.01
108.583	0.00	0.03	0.024	o					0.01
108.667	0.00	0.03	0.024	o					0.01
108.750	0.00	0.03	0.024	o					0.01
108.833	0.00	0.03	0.023	o					0.01
108.917	0.00	0.03	0.023	o					0.01
109.000	0.00	0.03	0.023	o					0.01
109.083	0.00	0.03	0.023	o					0.01
109.167	0.00	0.03	0.023	o					0.01
109.250	0.00	0.03	0.022	o					0.01
109.333	0.00	0.03	0.022	o					0.01
109.417	0.00	0.02	0.022	o					0.01
109.500	0.00	0.02	0.022	o					0.01
109.583	0.00	0.02	0.022	o					0.01

## Keller Crossing – Tract 38163

### ATTACHMENT E – Detention Basin Routing

109.667	0.00	0.02	0.022	o					0.01
109.750	0.00	0.02	0.021	o					0.01
109.833	0.00	0.02	0.021	o					0.01
109.917	0.00	0.02	0.021	o					0.01
110.000	0.00	0.02	0.021	o					0.01
110.083	0.00	0.02	0.021	o					0.01
110.167	0.00	0.02	0.021	o					0.01
110.250	0.00	0.02	0.020	o					0.01
110.333	0.00	0.02	0.020	o					0.01
110.417	0.00	0.02	0.020	o					0.01
110.500	0.00	0.02	0.020	o					0.01
110.583	0.00	0.02	0.020	o					0.01
110.667	0.00	0.02	0.020	o					0.01
110.750	0.00	0.02	0.020	o					0.01
110.833	0.00	0.02	0.019	o					0.01
110.917	0.00	0.02	0.019	o					0.01
111.000	0.00	0.02	0.019	o					0.01
111.083	0.00	0.02	0.019	o					0.01
111.167	0.00	0.02	0.019	o					0.01
111.250	0.00	0.02	0.019	o					0.01
111.333	0.00	0.02	0.018	o					0.01
111.417	0.00	0.02	0.018	o					0.01
111.500	0.00	0.02	0.018	o					0.01
111.583	0.00	0.02	0.018	o					0.01
111.667	0.00	0.02	0.018	o					0.01
111.750	0.00	0.02	0.018	o					0.01
111.833	0.00	0.02	0.018	o					0.01
111.917	0.00	0.02	0.018	o					0.01
112.000	0.00	0.02	0.017	o					0.01
112.083	0.00	0.02	0.017	o					0.01
112.167	0.00	0.02	0.017	o					0.01
112.250	0.00	0.02	0.017	o					0.01
112.333	0.00	0.02	0.017	o					0.01
112.417	0.00	0.02	0.017	o					0.01
112.500	0.00	0.02	0.017	o					0.01
112.583	0.00	0.02	0.016	o					0.01
112.667	0.00	0.02	0.016	o					0.01
112.750	0.00	0.02	0.016	o					0.01
112.833	0.00	0.02	0.016	o					0.01
112.917	0.00	0.02	0.016	o					0.01
113.000	0.00	0.02	0.016	o					0.01
113.083	0.00	0.02	0.016	o					0.01
113.167	0.00	0.02	0.016	o					0.01
113.250	0.00	0.02	0.015	o					0.01
113.333	0.00	0.02	0.015	o					0.01
113.417	0.00	0.02	0.015	o					0.01
113.500	0.00	0.02	0.015	o					0.01
113.583	0.00	0.02	0.015	o					0.01
113.667	0.00	0.02	0.015	o					0.01
113.750	0.00	0.02	0.015	o					0.01
113.833	0.00	0.02	0.015	o					0.01
113.917	0.00	0.02	0.015	o					0.01
114.000	0.00	0.02	0.014	o					0.01
114.083	0.00	0.02	0.014	o					0.01
114.167	0.00	0.02	0.014	o					0.01
114.250	0.00	0.02	0.014	o					0.01
114.333	0.00	0.02	0.014	o					0.01
114.417	0.00	0.02	0.014	o					0.01
114.500	0.00	0.02	0.014	o					0.01
114.583	0.00	0.02	0.014	o					0.01
114.667	0.00	0.02	0.014	o					0.01
114.750	0.00	0.02	0.013	o					0.01
114.833	0.00	0.02	0.013	o					0.01

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

114.917	0.00	0.01	0.013	o					0.01
115.000	0.00	0.01	0.013	o					0.01
115.083	0.00	0.01	0.013	o					0.01
115.167	0.00	0.01	0.013	o					0.01
115.250	0.00	0.01	0.013	o					0.01
115.333	0.00	0.01	0.013	o					0.01
115.417	0.00	0.01	0.013	o					0.01
115.500	0.00	0.01	0.013	o					0.01
115.583	0.00	0.01	0.012	o					0.01
115.667	0.00	0.01	0.012	o					0.01
115.750	0.00	0.01	0.012	o					0.01
115.833	0.00	0.01	0.012	o					0.01
115.917	0.00	0.01	0.012	o					0.01
116.000	0.00	0.01	0.012	o					0.01
116.083	0.00	0.01	0.012	o					0.01
116.167	0.00	0.01	0.012	o					0.01
116.250	0.00	0.01	0.012	o					0.01
116.333	0.00	0.01	0.012	o					0.01
116.417	0.00	0.01	0.012	o					0.01
116.500	0.00	0.01	0.011	o					0.01
116.583	0.00	0.01	0.011	o					0.01
116.667	0.00	0.01	0.011	o					0.01
116.750	0.00	0.01	0.011	o					0.01
116.833	0.00	0.01	0.011	o					0.01
116.917	0.00	0.01	0.011	o					0.01
117.000	0.00	0.01	0.011	o					0.01
117.083	0.00	0.01	0.011	o					0.01
117.167	0.00	0.01	0.011	o					0.01
117.250	0.00	0.01	0.011	o					0.01
117.333	0.00	0.01	0.011	o					0.01
117.417	0.00	0.01	0.010	o					0.01
117.500	0.00	0.01	0.010	o					0.01
117.583	0.00	0.01	0.010	o					0.01
117.667	0.00	0.01	0.010	o					0.01
117.750	0.00	0.01	0.010	o					0.01
117.833	0.00	0.01	0.010	o					0.01
117.917	0.00	0.01	0.010	o					0.01
118.000	0.00	0.01	0.010	o					0.01
118.083	0.00	0.01	0.010	o					0.01
118.167	0.00	0.01	0.010	o					0.01
118.250	0.00	0.01	0.010	o					0.01
118.333	0.00	0.01	0.010	o					0.01
118.417	0.00	0.01	0.010	o					0.01
118.500	0.00	0.01	0.009	o					0.01
118.583	0.00	0.01	0.009	o					0.01
118.667	0.00	0.01	0.009	o					0.01
118.750	0.00	0.01	0.009	o					0.01
118.833	0.00	0.01	0.009	o					0.01
118.917	0.00	0.01	0.009	o					0.01
119.000	0.00	0.01	0.009	o					0.01
119.083	0.00	0.01	0.009	o					0.01
119.167	0.00	0.01	0.009	o					0.01
119.250	0.00	0.01	0.009	o					0.01
119.333	0.00	0.01	0.009	o					0.01
119.417	0.00	0.01	0.009	o					0.01
119.500	0.00	0.01	0.009	o					0.01
119.583	0.00	0.01	0.009	o					0.01
119.667	0.00	0.01	0.008	o					0.01
119.750	0.00	0.01	0.008	o					0.00
119.833	0.00	0.01	0.008	o					0.00
119.917	0.00	0.01	0.008	o					0.00
120.000	0.00	0.01	0.008	o					0.00
120.083	0.00	0.01	0.008	o					0.00

# Keller Crossing – Tract 38163

## ATTACHMENT E – Detention Basin Routing

120.167	0.00	0.01	0.008	o					0.00
120.250	0.00	0.01	0.008	o					0.00
120.333	0.00	0.01	0.008	o					0.00
120.417	0.00	0.01	0.008	o					0.00
120.500	0.00	0.01	0.008	o					0.00
120.583	0.00	0.01	0.008	o					0.00
120.667	0.00	0.01	0.008	o					0.00
120.750	0.00	0.01	0.008	o					0.00
120.833	0.00	0.01	0.008	o					0.00
120.917	0.00	0.01	0.008	o					0.00
121.000	0.00	0.01	0.008	o					0.00
121.083	0.00	0.01	0.007	o					0.00
121.167	0.00	0.01	0.007	o					0.00
121.250	0.00	0.01	0.007	o					0.00
121.333	0.00	0.01	0.007	o					0.00
121.417	0.00	0.01	0.007	o					0.00
121.500	0.00	0.01	0.007	o					0.00
121.583	0.00	0.01	0.007	o					0.00
121.667	0.00	0.01	0.007	o					0.00
121.750	0.00	0.01	0.007	o					0.00
121.833	0.00	0.01	0.007	o					0.00
121.917	0.00	0.01	0.007	o					0.00
122.000	0.00	0.01	0.007	o					0.00
122.083	0.00	0.01	0.007	o					0.00
122.167	0.00	0.01	0.007	o					0.00
122.250	0.00	0.01	0.007	o					0.00
122.333	0.00	0.01	0.007	o					0.00
122.417	0.00	0.01	0.007	o					0.00
122.500	0.00	0.01	0.007	o					0.00
122.583	0.00	0.01	0.006	o					0.00
122.667	0.00	0.01	0.006	o					0.00
122.750	0.00	0.01	0.006	o					0.00
122.833	0.00	0.01	0.006	o					0.00
122.917	0.00	0.01	0.006	o					0.00
123.000	0.00	0.01	0.006	o					0.00
123.083	0.00	0.01	0.006	o					0.00
123.167	0.00	0.01	0.006	o					0.00
123.250	0.00	0.01	0.006	o					0.00
123.333	0.00	0.01	0.006	o					0.00
123.417	0.00	0.01	0.006	o					0.00
123.500	0.00	0.01	0.006	o					0.00
123.583	0.00	0.01	0.006	o					0.00
123.667	0.00	0.01	0.006	o					0.00
123.750	0.00	0.01	0.006	o					0.00
123.833	0.00	0.01	0.006	o					0.00
123.917	0.00	0.01	0.006	o					0.00
124.000	0.00	0.01	0.006	o					0.00
124.083	0.00	0.01	0.006	o					0.00
124.167	0.00	0.01	0.006	o					0.00
124.250	0.00	0.01	0.006	o					0.00
124.333	0.00	0.01	0.005	o					0.00
124.417	0.00	0.01	0.005	o					0.00
124.500	0.00	0.01	0.005	o					0.00
124.583	0.00	0.01	0.005	o					0.00
124.667	0.00	0.01	0.005	o					0.00
124.750	0.00	0.01	0.005	o					0.00
124.833	0.00	0.01	0.005	o					0.00
124.917	0.00	0.01	0.005	o					0.00
125.000	0.00	0.01	0.005	o					0.00
125.083	0.00	0.01	0.005	o					0.00
125.167	0.00	0.01	0.005	o					0.00
125.250	0.00	0.01	0.005	o					0.00
125.333	0.00	0.01	0.005	o					0.00



## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

125.417	0.00	0.01	0.005	o					0.00
125.500	0.00	0.01	0.005	o					0.00
125.583	0.00	0.01	0.005	o					0.00
125.667	0.00	0.01	0.005	o					0.00
125.750	0.00	0.01	0.005	o					0.00
125.833	0.00	0.01	0.005	o					0.00
125.917	0.00	0.01	0.005	o					0.00
126.000	0.00	0.01	0.005	o					0.00
126.083	0.00	0.01	0.005	o					0.00
126.167	0.00	0.01	0.005	o					0.00
126.250	0.00	0.01	0.005	o					0.00
126.333	0.00	0.01	0.005	o					0.00
126.417	0.00	0.01	0.005	o					0.00
126.500	0.00	0.01	0.004	o					0.00
126.583	0.00	0.01	0.004	o					0.00
126.667	0.00	0.00	0.004	o					0.00
126.750	0.00	0.00	0.004	o					0.00
126.833	0.00	0.00	0.004	o					0.00
126.917	0.00	0.00	0.004	o					0.00
127.000	0.00	0.00	0.004	o					0.00
127.083	0.00	0.00	0.004	o					0.00
127.167	0.00	0.00	0.004	o					0.00
127.250	0.00	0.00	0.004	o					0.00
127.333	0.00	0.00	0.004	o					0.00
127.417	0.00	0.00	0.004	o					0.00
127.500	0.00	0.00	0.004	o					0.00
127.583	0.00	0.00	0.004	o					0.00
127.667	0.00	0.00	0.004	o					0.00
127.750	0.00	0.00	0.004	o					0.00
127.833	0.00	0.00	0.004	o					0.00
127.917	0.00	0.00	0.004	o					0.00
128.000	0.00	0.00	0.004	o					0.00
128.083	0.00	0.00	0.004	o					0.00
128.167	0.00	0.00	0.004	o					0.00
128.250	0.00	0.00	0.004	o					0.00
128.333	0.00	0.00	0.004	o					0.00
128.417	0.00	0.00	0.004	o					0.00
128.500	0.00	0.00	0.004	o					0.00
128.583	0.00	0.00	0.004	o					0.00
128.667	0.00	0.00	0.004	o					0.00
128.750	0.00	0.00	0.004	o					0.00
128.833	0.00	0.00	0.004	o					0.00
128.917	0.00	0.00	0.004	o					0.00
129.000	0.00	0.00	0.004	o					0.00
129.083	0.00	0.00	0.004	o					0.00
129.167	0.00	0.00	0.004	o					0.00
129.250	0.00	0.00	0.003	o					0.00
129.333	0.00	0.00	0.003	o					0.00
129.417	0.00	0.00	0.003	o					0.00
129.500	0.00	0.00	0.003	o					0.00
129.583	0.00	0.00	0.003	o					0.00
129.667	0.00	0.00	0.003	o					0.00
129.750	0.00	0.00	0.003	o					0.00
129.833	0.00	0.00	0.003	o					0.00
129.917	0.00	0.00	0.003	o					0.00
130.000	0.00	0.00	0.003	o					0.00
130.083	0.00	0.00	0.003	o					0.00
130.167	0.00	0.00	0.003	o					0.00
130.250	0.00	0.00	0.003	o					0.00
130.333	0.00	0.00	0.003	o					0.00
130.417	0.00	0.00	0.003	o					0.00
130.500	0.00	0.00	0.003	o					0.00
130.583	0.00	0.00	0.003	o					0.00

## Keller Crossing – Tract 38163 ATTACHMENT E – Detention Basin Routing

130.667	0.00	0.00	0.003	o					0.00
130.750	0.00	0.00	0.003	o					0.00
130.833	0.00	0.00	0.003	o					0.00
130.917	0.00	0.00	0.003	o					0.00
131.000	0.00	0.00	0.003	o					0.00
131.083	0.00	0.00	0.003	o					0.00
131.167	0.00	0.00	0.003	o					0.00
131.250	0.00	0.00	0.003	o					0.00
131.333	0.00	0.00	0.003	o					0.00
131.417	0.00	0.00	0.003	o					0.00
131.500	0.00	0.00	0.003	o					0.00
131.583	0.00	0.00	0.003	o					0.00
131.667	0.00	0.00	0.003	o					0.00
131.750	0.00	0.00	0.003	o					0.00
131.833	0.00	0.00	0.003	o					0.00
131.917	0.00	0.00	0.003	o					0.00
132.000	0.00	0.00	0.003	o					0.00
132.083	0.00	0.00	0.003	o					0.00
132.167	0.00	0.00	0.003	o					0.00
132.250	0.00	0.00	0.003	o					0.00
132.333	0.00	0.00	0.003	o					0.00
132.417	0.00	0.00	0.003	o					0.00
132.500	0.00	0.00	0.003	o					0.00
132.583	0.00	0.00	0.003	o					0.00
132.667	0.00	0.00	0.003	o					0.00
132.750	0.00	0.00	0.003	o					0.00
132.833	0.00	0.00	0.002	o					0.00
132.917	0.00	0.00	0.002	o					0.00
133.000	0.00	0.00	0.002	o					0.00
133.083	0.00	0.00	0.002	o					0.00
133.167	0.00	0.00	0.002	o					0.00
133.250	0.00	0.00	0.002	o					0.00
133.333	0.00	0.00	0.002	o					0.00
133.417	0.00	0.00	0.002	o					0.00
133.500	0.00	0.00	0.002	o					0.00
133.583	0.00	0.00	0.002	o					0.00
133.667	0.00	0.00	0.002	o					0.00
133.750	0.00	0.00	0.002	o					0.00
133.833	0.00	0.00	0.002	o					0.00
133.917	0.00	0.00	0.002	o					0.00
134.000	0.00	0.00	0.002	o					0.00
134.083	0.00	0.00	0.002	o					0.00
134.167	0.00	0.00	0.002	o					0.00
134.250	0.00	0.00	0.002	o					0.00
134.333	0.00	0.00	0.002	o					0.00
134.417	0.00	0.00	0.002	o					0.00
134.500	0.00	0.00	0.002	o					0.00
134.583	0.00	0.00	0.002	o					0.00
134.667	0.00	0.00	0.002	o					0.00
134.750	0.00	0.00	0.002	o					0.00
134.833	0.00	0.00	0.002	o					0.00
134.917	0.00	0.00	0.002	o					0.00
135.000	0.00	0.00	0.002	o					0.00
135.083	0.00	0.00	0.002	o					0.00
135.167	0.00	0.00	0.002	o					0.00
135.250	0.00	0.00	0.002	o					0.00
135.333	0.00	0.00	0.002	o					0.00
135.417	0.00	0.00	0.002	o					0.00
135.500	0.00	0.00	0.002	o					0.00
135.583	0.00	0.00	0.002	o					0.00
135.667	0.00	0.00	0.002	o					0.00
135.750	0.00	0.00	0.002	o					0.00
135.833	0.00	0.00	0.002	o					0.00

**Keller Crossing – Tract 38163**  
**ATTACHMENT E – Detention Basin Routing**

135.917	0.00	0.00	0.002	o					0.00
136.000	0.00	0.00	0.002	o					0.00
136.083	0.00	0.00	0.002	o					0.00
136.167	0.00	0.00	0.002	o					0.00
136.250	0.00	0.00	0.002	o					0.00
136.333	0.00	0.00	0.002	o					0.00
136.417	0.00	0.00	0.002	o					0.00
136.500	0.00	0.00	0.002	o					0.00
136.583	0.00	0.00	0.002	o					0.00
136.667	0.00	0.00	0.002	o					0.00
136.750	0.00	0.00	0.002	o					0.00
136.833	0.00	0.00	0.002	o					0.00
136.917	0.00	0.00	0.002	o					0.00
137.000	0.00	0.00	0.002	o					0.00

Remaining water in basin = 0.00 (Ac.Ft)

```
*****HYDROGRAPH DATA*****
      Number of intervals = 1644
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 54.109 (CFS)
      Total volume = 34.878 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****
```

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## **ATTACHMENT F:**

**EXISTING CULVERT CAPACITY CALCULATIONS  
CALTRANS AS-BUILT DRAWING**

**Existing Culverts along Winchester  
Highway (HWY-79) Capacity  
Calculations, per  
As-built CALTRANS drawings**

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Existing Downstream Drainage Facility:  
TABLE OF PROPOSED SYSTEM DESIGN VALUES**

Drainage System	Existing Pipe Size and Type English (Metric)	Proposed Pipe Size and Type English (Metric)	Station (metric)	D Size (ft)	A (ft <sup>2</sup> )	S (ft/ft)	n	Wetted Perimeter (AP)	R (assume 100% full) A/AP	Q (max) cfs	V(max) ft/s	Q (100)*** cfs	V*** ft/s	
1	42 " ( 1050 mm) CMP	42 " ( 1050 mm) CSP	165+44.866	3.5	9.62	2.22	0.24	11.00	0.875	81.4	8.46	20.4	9.58	
2	84 " ( 2135 mm) CMP	84 " ( 2100 mm) RCP	168+92.190	7	38.48	1.16	0.13	21.99	1.75	41.1*	8.84*	41.1	8.84	
3	60 " ( 1500 mm) CMP	60 " ( 1500 mm) RCP	170+51.318	5	19.63	0.83	0.13	15.71	1.25	237.9	12.12	548.4	12.21	
4	24 " ( 600 mm) CMP	24 " ( 600 mm) AP	172+76.365	2	3.14	2.14	0.24	6.28	0.5	18.0	5.72	76.9	11.51	
5	18 " ( 450 mm) CMP	24 " ( 600 mm) RCP	175+17.896	2	3.14	0.38	0.13	6.28	0.5	14.0	4.45	106.6	10.41	
6	18 " ( 450 mm) CMP	24 " ( 600 mm) RCP	176+86.952	2	3.14	0.68	0.13	6.28	0.5	18.7	5.95	31.6	7.50	
7	18 " ( 450 mm) CMP	24 " ( 600 mm) AP	178+91.951	2	3.14	2.53	0.24	6.28	0.5	19.5	6.22	16.3	8.67	
8	84 " ( 2134 mm) CMP	84 " ( 2100 mm) RCP	180+30.829	7	38.48	0.30	0.13	21.99	1.75	350.9	9.12	132.3	11.83	
9	18 " ( 450 mm) CMP	24 " ( 600 mm) AP	182+44.948	2	3.14	6.34	0.24	6.28	0.5	30.9	9.85	5.8	8.33	
10	36 " ( 900 mm) CMP	36 " ( 900 mm) AP	183+77.789	3	7.07	6.95	0.24	9.42	0.75	95.5	13.51	21.1	11.72	
11	84 " ( 2135 mm) CMP	84 " ( 2100 mm) RCP	186+20.636	7	38.48	3.82	0.13	21.99	1.75	56.3*	12.0*	56.3	12.00	
12	24 " ( 600 mm) CMP	24 " ( 600 mm) AP	187+12.491	2	3.14	1.88	0.24	6.28	0.5	16.8	5.36	11.4	8.79	
13	24 " ( 600 mm) CSP	24 " ( 600 mm) CSP	190+14.141	2	3.14	4.33	0.24	6.28	0.5	25.6	8.14	18.2	8.79	
14	42 " ( 1050 mm) CSP	42 " ( 600 mm) CSP	190+89.283	3.5	9.62	2.81	0.24	11.00	0.875	91.6	9.52	69.9	12.54	
15	36 " ( 900 mm) AP	36 " ( 36 mm) AP	238+49.866	Covered under Project 1 (EA 464611 Drainage Report)							18.9**	8.12**	18.9	8.12
16	6'x3' (1830mmx915mm) RCB	6'x3' (1830mmx915mm) RCB	239+64.212	Covered under Project 1 (EA 464611 Drainage Report)							111.4**	10.56**	111.4	10.56
17	24 " ( 600 mm) CSP	24 " ( 600 mm) CSP	136+80.829	2	3.14	1.58	0.24	6.28	0.5	15.4	4.91	N/A - Pipe Extension		
18	24 " ( 600 mm) CSP	24 " ( 600 mm) CSP	138+59.920	2	3.14	2.50	0.24	6.28	0.5	19.4	6.18	N/A - Pipe Extension		
19	84 " ( 2100 mm) CSP	84 " ( 2100 mm) CSP	151+42.54	7	38.48	1.81	0.24	21.99	1.75	466.9	12.13	N/A - Pipe Extension		
20	84 " ( 2100 mm) CSP	84 " ( 2100 mm) CSP	155+16.000	7	38.48	1.66	0.24	21.99	1.75	447.1	11.62	N/A - Pipe Extension		

\* Q(100) used. Drainage System is used as a wildlife crossing and is oversized (existing and proposed).

\*\* Covered under Project 1 (EA 464611 Drainage Report)

\*\*\* Informational Data Only, See Appendix G and I.

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Existing Downstream Drainage Facility:**

The existing Caltrans culverts along Route 79 (Winchester Avenue) are the existing downstream Drainage Facility of the Keller Crossing project.

There are seven (7) culverts, Drainage System 2 thru Drainage System 8 per as-built Caltrans Contract Number 08-464624, dated 11/23/2015, as shown in Hydrology Map.

**Summary Existing Caltrans Culverts Capacity (see Attachment F for calculations):**

Drainage System	Culvert Size	Pipe Slope	Pipe Capacity in cfs	Inlet Control Capacity in cfs	Existing Culvert Capacity in cfs
DS #2	84" RCP	S=0.0063	507.0	485.0	<b>721.0</b>
DS #3	60" RCP	S=0.0083	237.3	236.0	
DS #4	24" AP	S=0.0214	30.7	34.8	<b>30.7</b>
DS #5	24" RCP	S=0.0038	13.9	23.2	<b>13.9</b>
DS #6	24" RCP	S=0.0068	18.7	28.4	<b>18.7</b>
DS #7	24" AP	S=0.0253	33.4	32.8	<b>32.8</b>
DS #8	84" RCP	S=0.003	349.9	527.3	<b>349.9</b>

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 2: 84" RCP, s=0.0063**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00630	ft/ft
Normal Depth	7.00	ft
Diameter	7.00	ft
Discharge	507.03	ft <sup>3</sup> /s

Results

Discharge	507.03	ft <sup>3</sup> /s
Normal Depth	7.00	ft
Flow Area	38.48	ft <sup>2</sup>
Wetted Perimeter	21.99	ft
Hydraulic Radius	1.75	ft
Top Width	0.00	ft
Critical Depth	5.88	ft
Percent Full	100.0	%
Critical Slope	0.00605	ft/ft
Velocity	13.17	ft/s
Velocity Head	2.70	ft
Specific Energy	9.70	ft
Froude Number	0.00	
Maximum Discharge	545.41	ft <sup>3</sup> /s
Discharge Full	507.03	ft <sup>3</sup> /s
Slope Full	0.00630	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	7.00	ft
Critical Depth	5.88	ft
Channel Slope	0.00630	ft/ft
Critical Slope	0.00605	ft/ft



Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Orifice – DS 2: 84" diameter opening, available headwater ~ 9'**

Project Description

Solve For                                  Discharge

Input Data

Headwater Elevation	9.00	ft
Centroid Elevation	3.50	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.67	
Diameter	7.00	ft

Results

Discharge	485.08	ft <sup>3</sup> /s
Headwater Height Above Centroid	5.50	ft
Tailwater Height Above Centroid	-3.50	ft
Flow Area	38.48	ft <sup>2</sup>
Velocity	12.60	ft/s

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 3: 60" RCP, s=0.0083**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00830	ft/ft
Normal Depth	5.00	ft
Diameter	5.00	ft
Discharge	237.26	ft <sup>3</sup> /s

Results

Discharge	237.26	ft <sup>3</sup> /s
Normal Depth	5.00	ft
Flow Area	19.63	ft <sup>2</sup>
Wetted Perimeter	15.71	ft
Hydraulic Radius	1.25	ft
Top Width	0.00	ft
Critical Depth	4.34	ft
Percent Full	100.0	%
Critical Slope	0.00760	ft/ft
Velocity	12.08	ft/s
Velocity Head	2.27	ft
Specific Energy	7.27	ft
Froude Number	0.00	
Maximum Discharge	255.22	ft <sup>3</sup> /s
Discharge Full	237.26	ft <sup>3</sup> /s
Slope Full	0.00830	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	5.00	ft
Critical Depth	4.34	ft
Channel Slope	0.00830	ft/ft
Critical Slope	0.00760	ft/ft



Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 4: 24" AP, s=0.0214**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.014
Channel Slope	0.02140 ft/ft
Normal Depth	2.00 ft
Diameter	2.00 ft
Discharge	30.73 ft <sup>3</sup> /s

Results

Discharge	30.73 ft <sup>3</sup> /s
Normal Depth	2.00 ft
Flow Area	3.14 ft <sup>2</sup>
Wetted Perimeter	6.28 ft
Hydraulic Radius	0.50 ft
Top Width	0.00 ft
Critical Depth	1.87 ft
Percent Full	100.0 %
Critical Slope	0.01849 ft/ft
Velocity	9.78 ft/s
Velocity Head	1.49 ft
Specific Energy	3.49 ft
Froude Number	0.00
Maximum Discharge	33.05 ft <sup>3</sup> /s
Discharge Full	30.73 ft <sup>3</sup> /s
Slope Full	0.02140 ft/ft
Flow Type	SubCritical

GVF Input Data

Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.00 %

GVF Output Data

Normal Depth Over Rise	100.00 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.00 ft
Critical Depth	1.87 ft
Channel Slope	0.02140 ft/ft
Critical Slope	0.01849 ft/ft

**Worksheet for Circular Orifice – DS 4: 24" diameter opening, available headwater ~ 5.5'**

Project Description

Solve For Discharge

Input Data

Headwater Elevation	5.50 ft
Centroid Elevation	1.00 ft
Tailwater Elevation	0.00 ft
Discharge Coefficient	0.65
Diameter	2.00 ft

Results

Discharge	34.75 ft <sup>3</sup> /s
Headwater Height Above Centroid	4.50 ft
Tailwater Height Above Centroid	-1.00 ft
Flow Area	3.14 ft <sup>2</sup>
Velocity	11.06 ft/s

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 5: 24" RCP, s=0.0038**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00380	ft/ft
Normal Depth	2.00	ft
Diameter	2.00	ft
Discharge	13.94	ft <sup>3</sup> /s

Results

Discharge	13.94	ft <sup>3</sup> /s
Normal Depth	2.00	ft
Flow Area	3.14	ft <sup>2</sup>
Wetted Perimeter	6.28	ft
Hydraulic Radius	0.50	ft
Top Width	0.00	ft
Critical Depth	1.34	ft
Percent Full	100.0	%
Critical Slope	0.00604	ft/ft
Velocity	4.44	ft/s
Velocity Head	0.31	ft
Specific Energy	2.31	ft
Froude Number	0.00	
Maximum Discharge	15.00	ft <sup>3</sup> /s
Discharge Full	13.94	ft <sup>3</sup> /s
Slope Full	0.00380	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	1.34	ft
Channel Slope	0.00380	ft/ft
Critical Slope	0.00604	ft/ft



Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 6: 24" RCP, s=0.0068**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00680	ft/ft
Normal Depth	2.00	ft
Diameter	2.00	ft
Discharge	18.65	ft <sup>3</sup> /s

Results

Discharge	18.65	ft <sup>3</sup> /s
Normal Depth	2.00	ft
Flow Area	3.14	ft <sup>2</sup>
Wetted Perimeter	6.28	ft
Hydraulic Radius	0.50	ft
Top Width	0.00	ft
Critical Depth	1.55	ft
Percent Full	100.0	%
Critical Slope	0.00755	ft/ft
Velocity	5.94	ft/s
Velocity Head	0.55	ft
Specific Energy	2.55	ft
Froude Number	0.00	
Maximum Discharge	20.07	ft <sup>3</sup> /s
Discharge Full	18.65	ft <sup>3</sup> /s
Slope Full	0.00680	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	1.55	ft
Channel Slope	0.00680	ft/ft
Critical Slope	0.00755	ft/ft



Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Orifice – DS 6: 24" diameter opening, available headwater ~ 4'**

Project Description

Solve For                      Discharge

Input Data

Headwater Elevation	4.00	ft
Centroid Elevation	1.00	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.65	
Diameter	2.00	ft

Results

Discharge	28.37	ft <sup>3</sup> /s
Headwater Height Above Centroid	3.00	ft
Tailwater Height Above Centroid	-1.00	ft
Flow Area	3.14	ft <sup>2</sup>
Velocity	9.03	ft/s

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 7: 24" AP, s=0.0253**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.014	
Channel Slope	0.02530	ft/ft
Normal Depth	2.00	ft
Diameter	2.00	ft
Discharge	33.41	ft <sup>3</sup> /s

Results

Discharge	33.41	ft <sup>3</sup> /s
Normal Depth	2.00	ft
Flow Area	3.14	ft <sup>2</sup>
Wetted Perimeter	6.28	ft
Hydraulic Radius	0.50	ft
Top Width	0.00	ft
Critical Depth	1.91	ft
Percent Full	100.0	%
Critical Slope	0.02194	ft/ft
Velocity	10.64	ft/s
Velocity Head	1.76	ft
Specific Energy	3.76	ft
Froude Number	0.00	
Maximum Discharge	35.94	ft <sup>3</sup> /s
Discharge Full	33.41	ft <sup>3</sup> /s
Slope Full	0.02530	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	1.91	ft
Channel Slope	0.02530	ft/ft
Critical Slope	0.02194	ft/ft



Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Pipe – DS 8: 84" RCP, s=0.003**

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00300	ft/ft
Normal Depth	7.00	ft
Diameter	7.00	ft
Discharge	349.88	ft <sup>3</sup> /s

Results

Discharge	349.88	ft <sup>3</sup> /s
Normal Depth	7.00	ft
Flow Area	38.48	ft <sup>2</sup>
Wetted Perimeter	21.99	ft
Hydraulic Radius	1.75	ft
Top Width	0.00	ft
Critical Depth	4.93	ft
Percent Full	100.0	%
Critical Slope	0.00421	ft/ft
Velocity	9.09	ft/s
Velocity Head	1.28	ft
Specific Energy	8.28	ft
Froude Number	0.00	
Maximum Discharge	376.37	ft <sup>3</sup> /s
Discharge Full	349.88	ft <sup>3</sup> /s
Slope Full	0.00300	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	7.00	ft
Critical Depth	4.93	ft
Channel Slope	0.00300	ft/ft
Critical Slope	0.00421	ft/ft

Keller Crossing – Tract 38163  
ATTACHMENT F – Ex. Culverts Capacity, CALTRANS As-built drawings

**Worksheet for Circular Orifice – DS 8: 84" diameter opening, available headwater ~ 10'**

Project Description

Solve For    Discharge

Input Data

Headwater Elevation	10.00	ft
Centroid Elevation	3.50	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.67	
Diameter	7.00	ft

Results

Discharge	527.33	ft <sup>3</sup> /s
Headwater Height Above Centroid	6.50	ft
Tailwater Height Above Centroid	-3.50	ft
Flow Area	38.48	ft <sup>2</sup>
Velocity	13.70	ft/s

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 DATE REVISIONS



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	RIV	79	R13.5/R19.2	95	229

REGISTERED CIVIL ENGINEER  
**R. S. CHAVEZ**  
 No. C41904  
 Exp. 03/31/12  
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 STATE OF CALIFORNIA

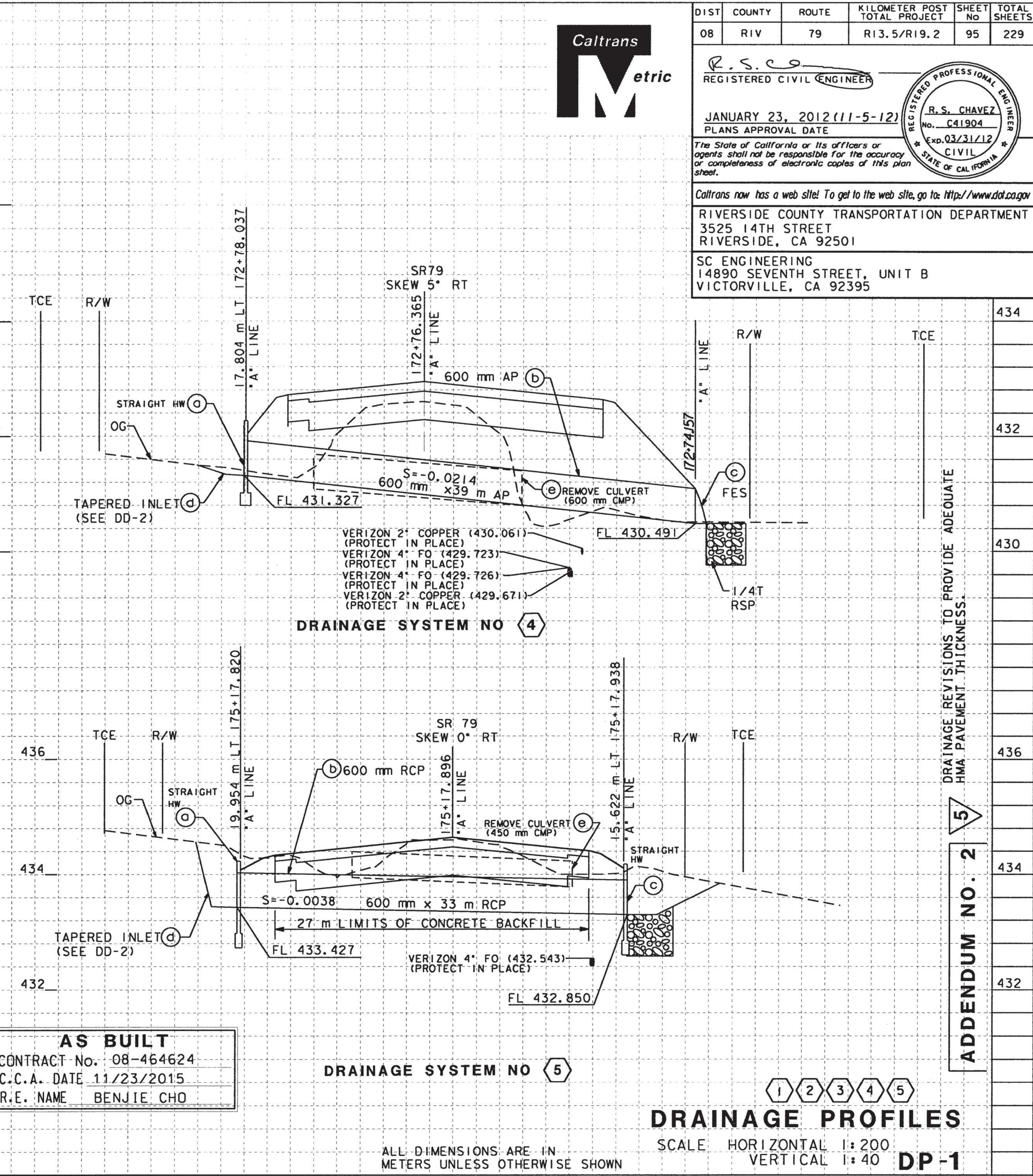
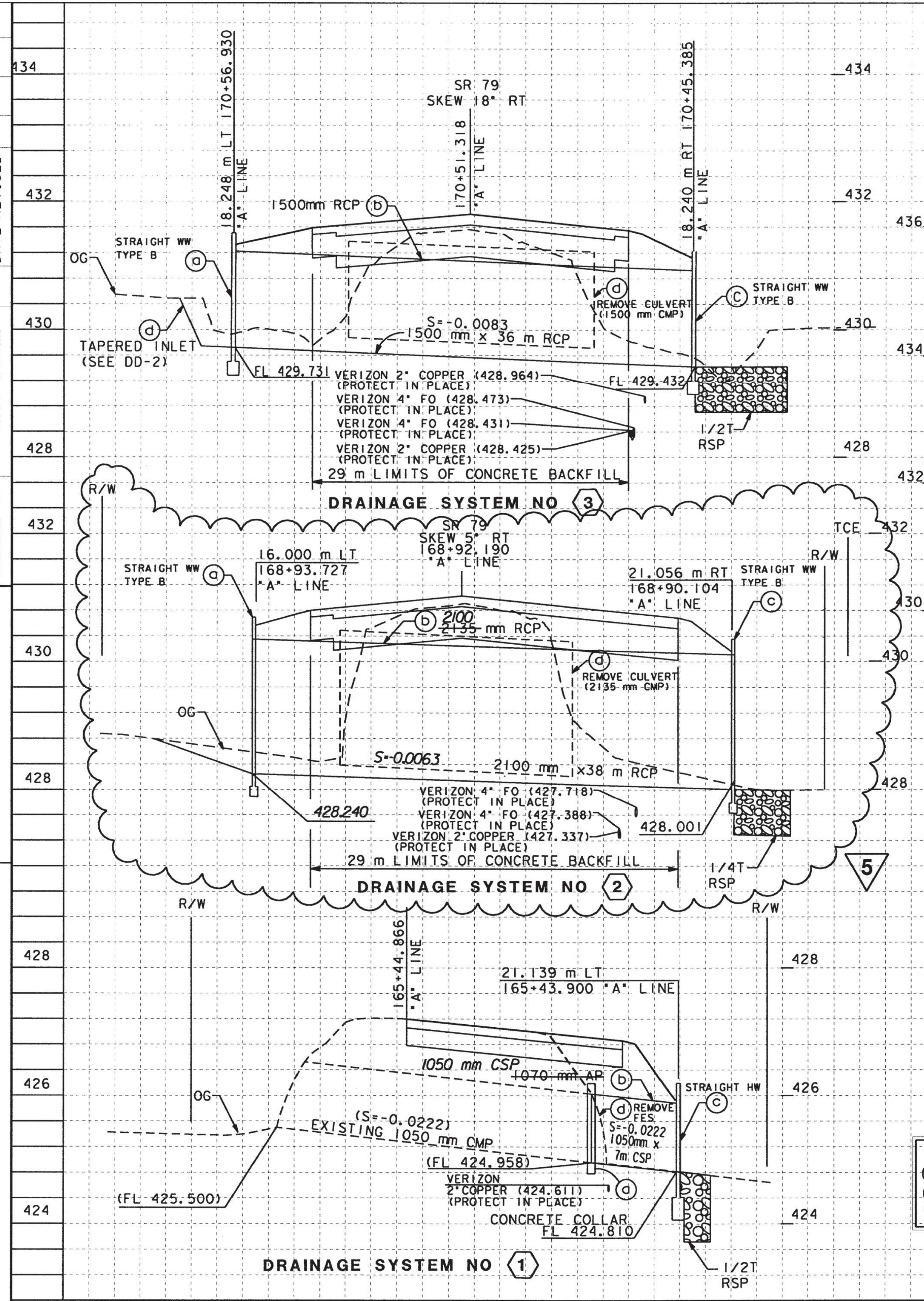
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 RIVERSIDE, CA 92501

SC ENGINEERING  
 14890 SEVENTH STREET, UNIT B  
 VICTORVILLE, CA 92395



**AS BUILT**  
 CONTRACT No. 08-464624  
 C.C.A. DATE 11/23/2015  
 R.E. NAME BENJIE CHO

1 2 3 4 5

**DRAINAGE PROFILES**

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN  
 SCALE HORIZONTAL 1:200  
 VERTICAL 1:40 **DP-1**

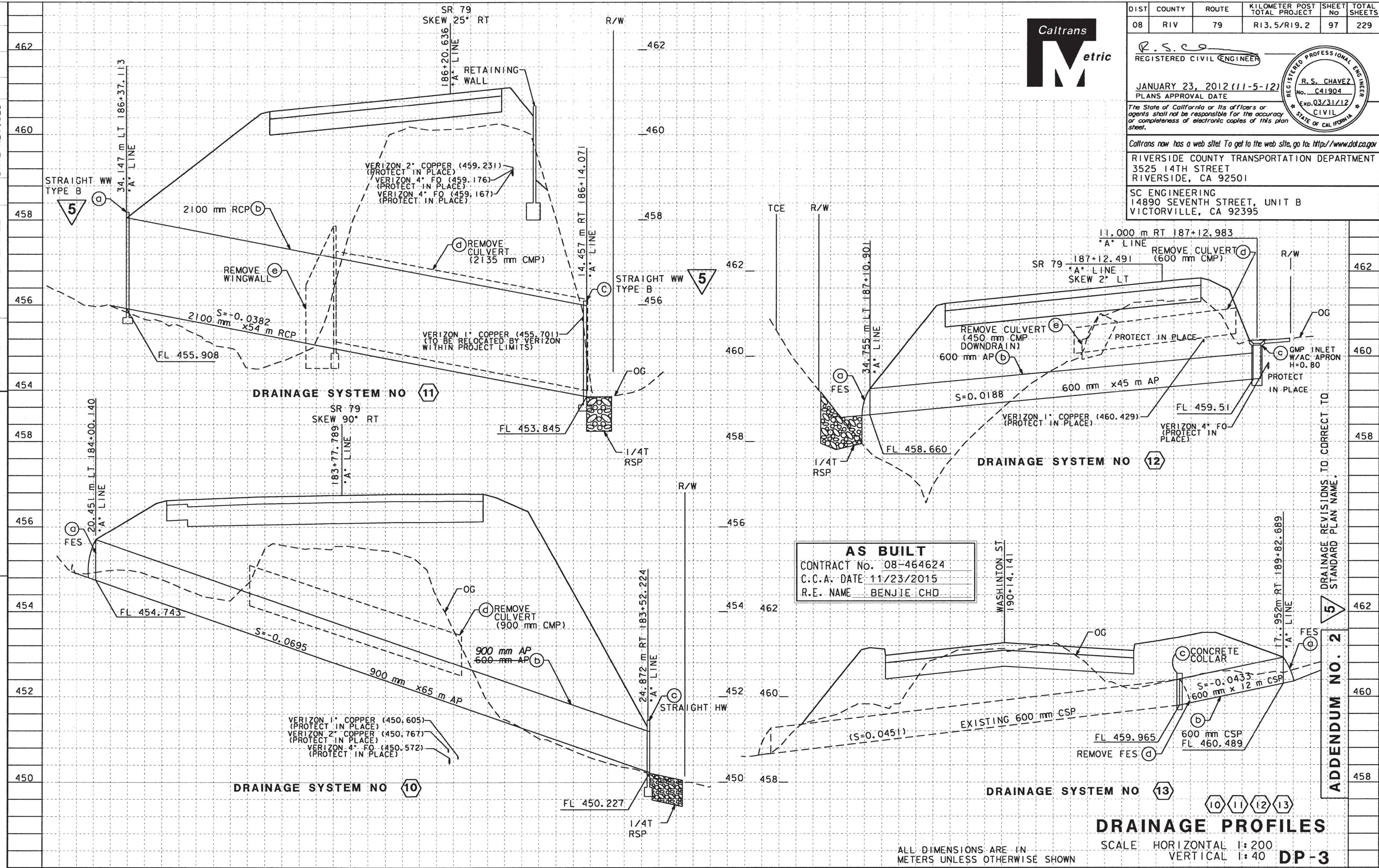
DRAINAGE REVISIONS TO PROVIDE ADEQUATE HMA PAVEMENT THICKNESS.

**ADDENDUM NO. 2**

Station	Cu	Exc	Emb	SHEET TOTAL



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 CHECKED BY  
 DATE REVISIONS BY DATE REVISIONS BY



**AS BUILT**  
 CONTRACT No. 08-464624  
 C.C.A. DATE 11/23/2015  
 R.E. NAME BENJIE CHD



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	RIV	79	R13.5/R19.2	97	229

REGISTERED CIVIL ENGINEER  
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 VICTORVILLE, CA 92395

DRAINAGE REVISIONS TO CORRECT TO STANDARD PLAN NAME

**DRAINAGE PROFILES**

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN  
 SCALE HORIZONTAL 1:200  
 VERTICAL 1:40  
**DP-3**

Station	Cu	Exc	Emb	SHEET TOTAL



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**JON BUMPS**  
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 460  
 458  
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 J. DAVIS R. S. CHAVEZ  
 462  
 460  
 458



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	RIV	79	R13.5/R19.2	98	229

**R.S.C.**  
 REGISTERED CIVIL ENGINEER

**R. S. CHAVEZ**  
 No. C41904  
 Exp. 03/31/12  
 CIVIL  
 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER

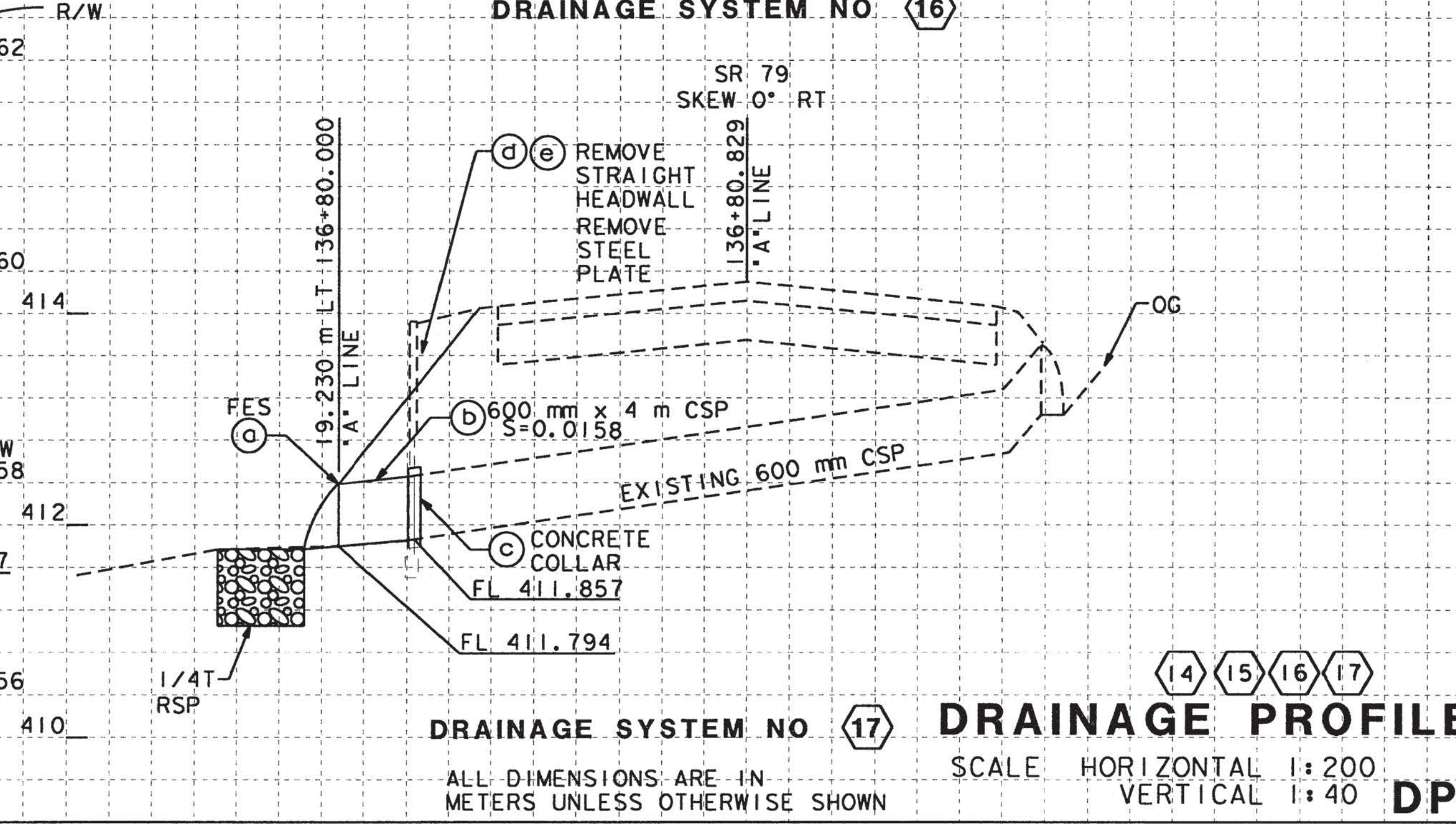
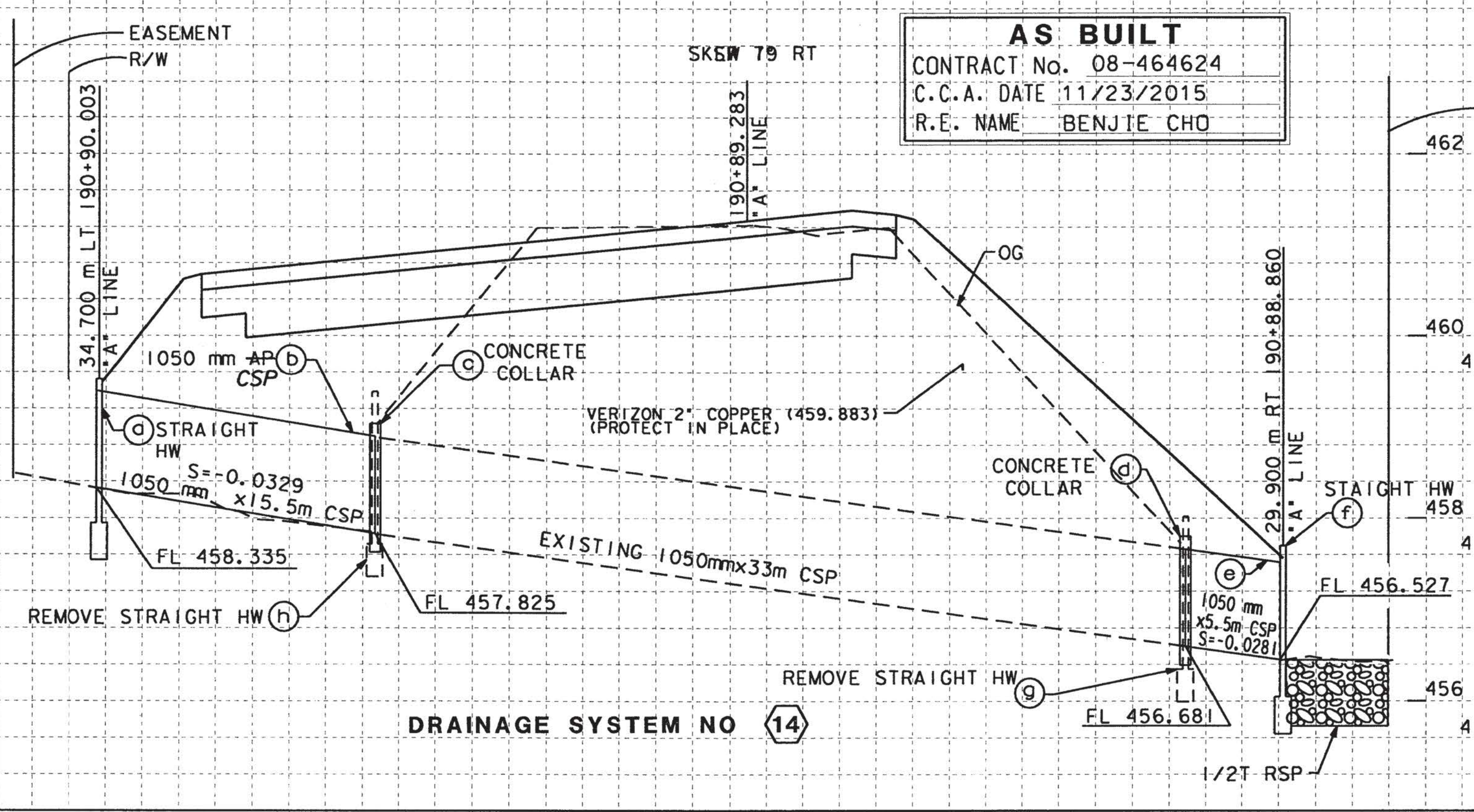
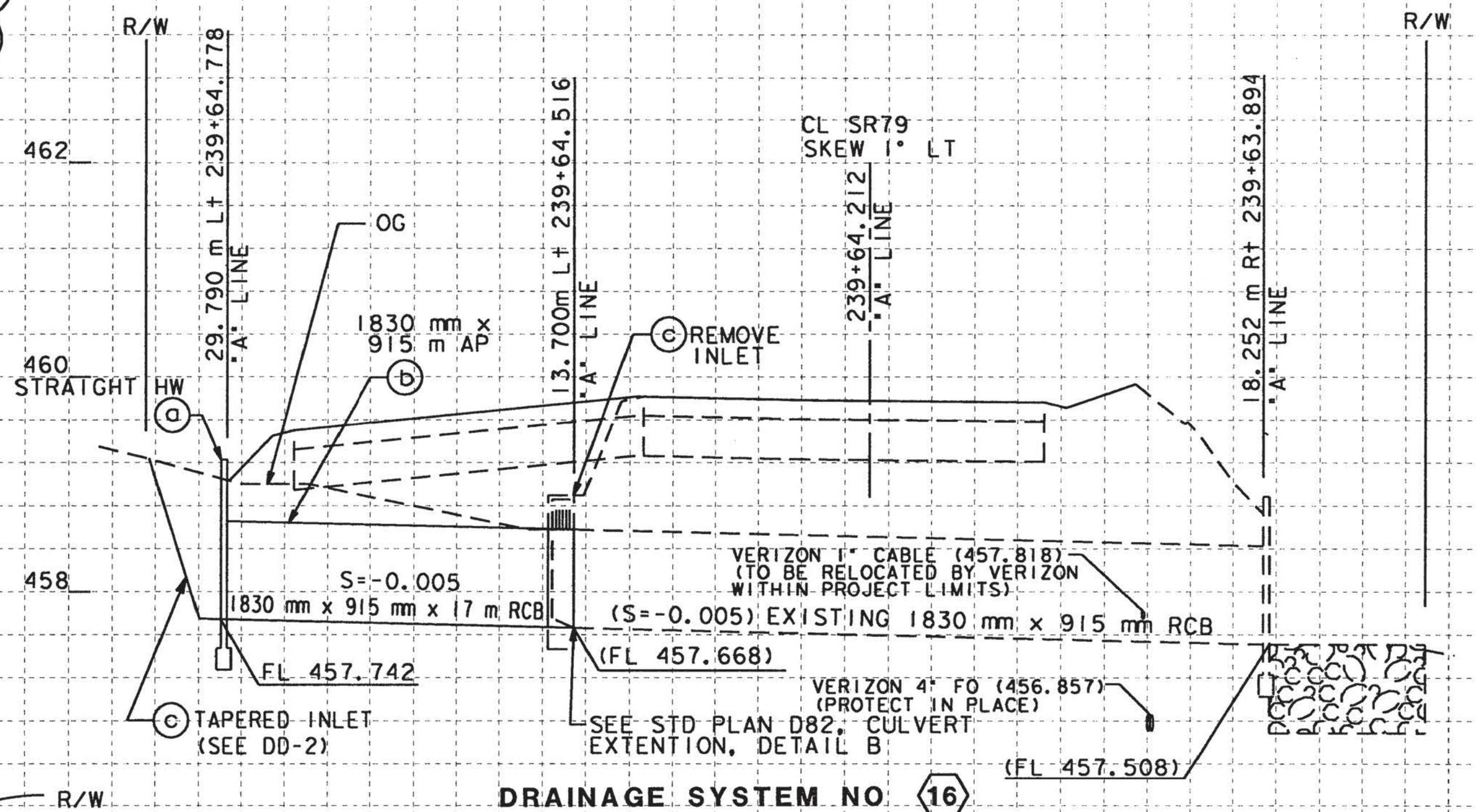
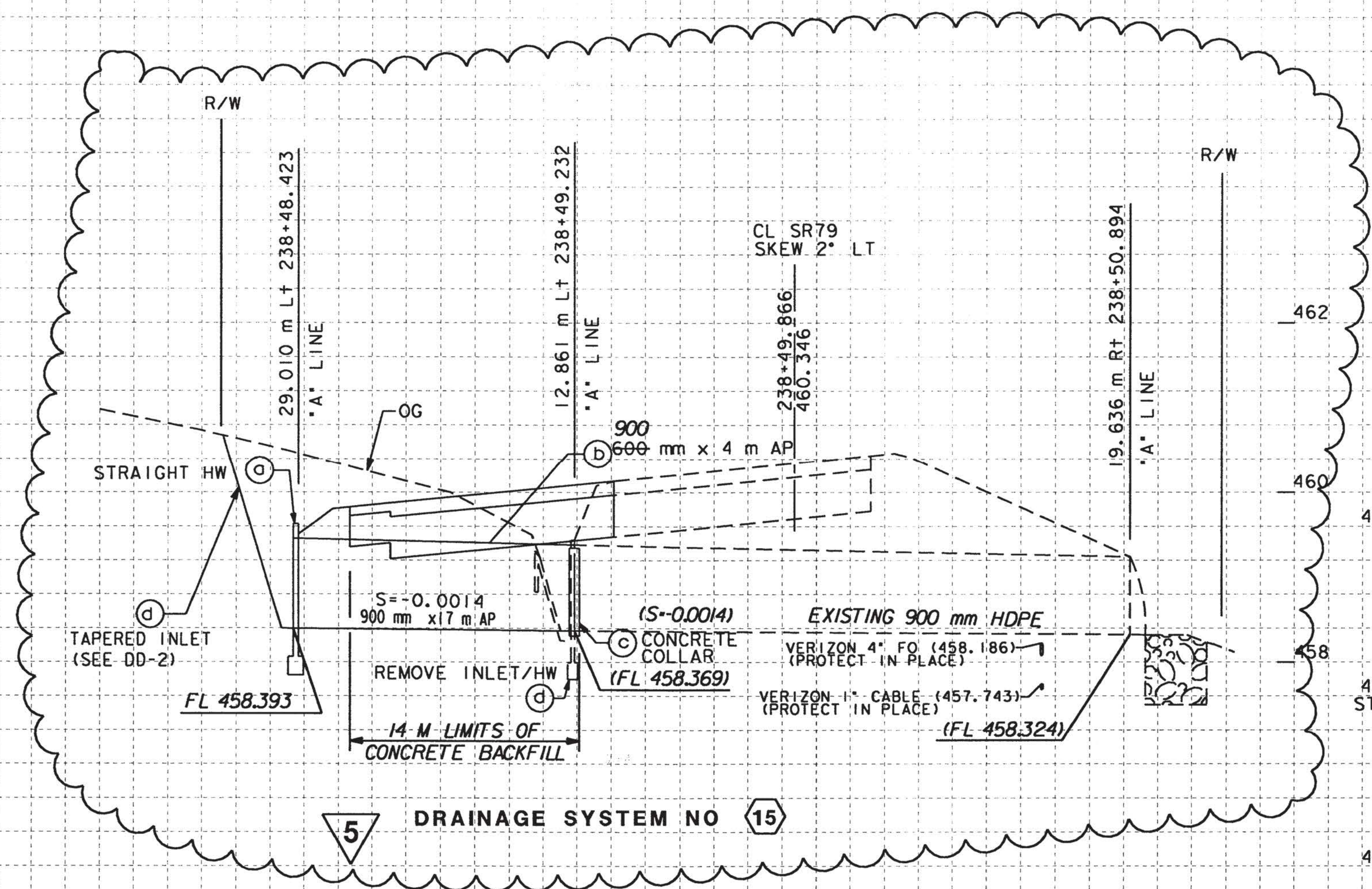
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 R.E. NAME BENJIE CHO

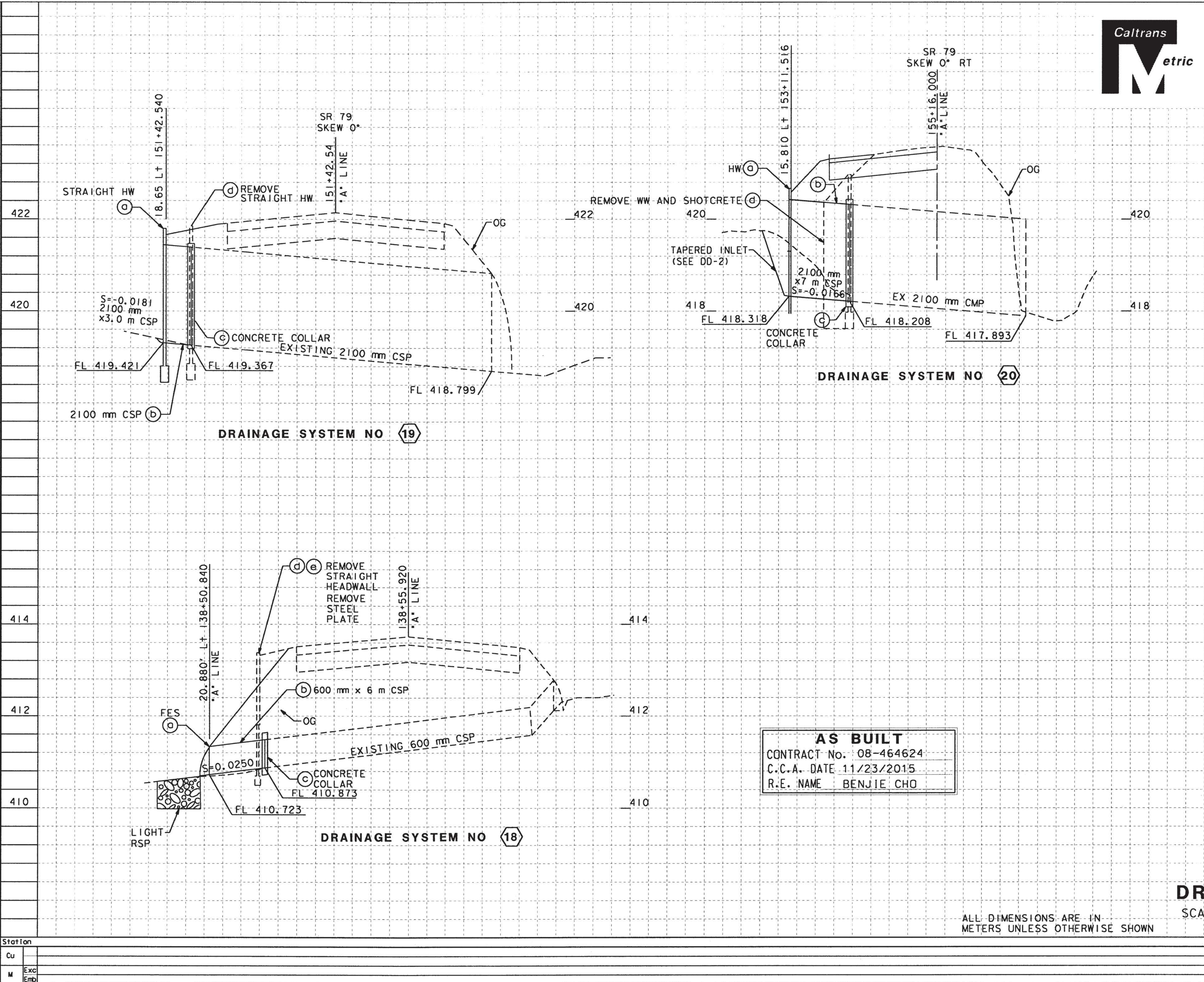
**DRAINAGE PROFILES**  
 SCALE HORIZONTAL 1:200  
 VERTICAL 1:40  
**DP-4**

DRAINAGE REVISIONS TO PROVIDE ADEQUATE HMA PAVEMENT THICKNESS.

ADDENDUM NO. 2

Station	Cu	M	Exc	Emb	SHEET TOTAL

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	RIV	79	R13.5/R19.2	99	229

REGISTERED CIVIL ENGINEER  
 R. S. CHAVEZ  
 No. C41904  
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18 19 20  
**DRAINAGE PROFILES**  
 SCALE HORIZONTAL 1:200  
 VERTICAL 1:40  
**DP-5**

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

Station	Cu	M	Exc	Emb	SHEET TOTAL

**ATTACHMENT G:**  
**CATCH BASIN SIZING CALCULATIONS**

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

## Street Hydraulics

### Worksheet for Irregular Section - 56' Local Street

#### Project Description

Friction Method	Manning Formula
Solve For	Discharge

#### Input Data

Channel Slope	0.00650	ft/ft
Normal Depth	0.48	ft
Section Definitions		

Station (ft)	Elevation (ft)
0+00	100.20
0+10	100.00
0+10	99.50
0+12	99.63
0+12	99.66
0+28	99.98

#### Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 100.20)	(0+28, 99.98)	0.015

#### Options

Current Roughness Weighted	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

#### Results

Discharge	8.67	ft <sup>3</sup> /s
Elevation Range	99.50 to 100.20	ft
Flow Area	3.37	ft <sup>2</sup>
Wetted Perimeter	18.40	ft
Hydraulic Radius	0.18	ft
Top Width	18.00	ft
Normal Depth	0.48	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Irregular Section - 56' Local Street**

Results

Critical Depth	0.49	ft
Critical Slope	0.00585	ft/ft
Velocity	2.57	ft/s
Velocity Head	0.10	ft
Specific Energy	0.58	ft
Froude Number	1.05	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.48	ft
Critical Depth	0.49	ft
Channel Slope	0.00650	ft/ft
Critical Slope	0.00585	ft/ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Cross Section for Irregular Section - 56' Local Street**

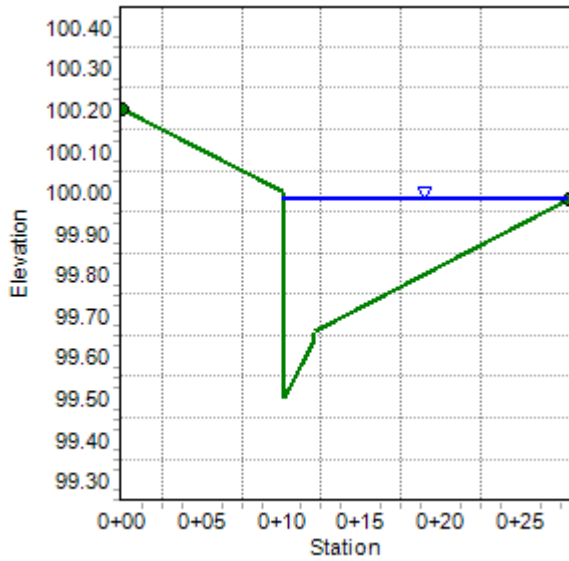
Project Description

Friction Method                      Manning Formula  
Solve For                                Discharge

Input Data

Channel Slope                            0.00650    ft/ft  
Normal Depth                            0.48        ft  
Discharge                                 8.67        ft<sup>3</sup>/s

Cross Section Image



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Rating Table for Irregular Section - 56' Local Street**

Project Description

Friction Method                          Manning Formula  
Solve For                                     Discharge

Input Data

Channel Slope    0.00650    ft/ft  
Normal Depth    0.48    ft  
Section Definitions

Station (ft)	Elevation (ft)
0+00	100.20
0+10	100.00
0+10	99.50
0+12	99.63
0+12	99.66
0+28	99.98

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 100.20)	(0+28, 99.98)	0.015

Channel Slope (ft/ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
0.00400	6.80	2.02	3.37	18.40	18.00
0.00500	7.61	2.26	3.37	18.40	18.00
0.00600	8.33	2.47	3.37	18.40	18.00
0.00700	9.00	2.67	3.37	18.40	18.00
0.00800	9.62	2.86	3.37	18.40	18.00
0.00900	10.20	3.03	3.37	18.40	18.00
0.01000	10.76	3.19	3.37	18.40	18.00
0.01100	11.28	3.35	3.37	18.40	18.00

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Rating Table for Irregular Section - 56' Local Street**

Channel Slope (ft/ft)	Discharge (ft <sup>3</sup> /s)	Velocity (ft/s)	Flow Area (ft <sup>2</sup> )	Wetted Perimeter (ft)	Top Width (ft)
0.01200	11.78	3.50	3.37	18.40	18.00
0.01300	12.26	3.64	3.37	18.40	18.00
0.01400	12.73	3.78	3.37	18.40	18.00
0.01500	13.17	3.91	3.37	18.40	18.00
0.01600	13.61	4.04	3.37	18.40	18.00
0.01700	14.02	4.16	3.37	18.40	18.00
0.01800	14.43	4.28	3.37	18.40	18.00
0.01900	14.83	4.40	3.37	18.40	18.00
0.02000	15.21	4.52	3.37	18.40	18.00
0.02100	15.59	4.63	3.37	18.40	18.00
0.02200	15.95	4.74	3.37	18.40	18.00
0.02300	16.31	4.84	3.37	18.40	18.00
0.02400	16.66	4.95	3.37	18.40	18.00
0.02500	17.01	5.05	3.37	18.40	18.00
0.02600	17.34	5.15	3.37	18.40	18.00
0.02700	17.67	5.25	3.37	18.40	18.00
0.02800	18.00	5.34	3.37	18.40	18.00
0.02900	18.32	5.44	3.37	18.40	18.00
0.03000	18.63	5.53	3.37	18.40	18.00
0.03100	18.94	5.62	3.37	18.40	18.00
0.03200	19.24	5.71	3.37	18.40	18.00
0.03300	19.54	5.80	3.37	18.40	18.00
0.03400	19.83	5.89	3.37	18.40	18.00
0.03500	20.12	5.97	3.37	18.40	18.00
0.03600	20.41	6.06	3.37	18.40	18.00
0.03700	20.69	6.14	3.37	18.40	18.00
0.03800	20.97	6.23	3.37	18.40	18.00
0.03900	21.24	6.31	3.37	18.40	18.00
0.04000	21.51	6.39	3.37	18.40	18.00
0.04100	21.78	6.47	3.37	18.40	18.00
0.04200	22.04	6.54	3.37	18.40	18.00
0.04300	22.30	6.62	3.37	18.40	18.00
0.04400	22.56	6.70	3.37	18.40	18.00
0.04500	22.82	6.77	3.37	18.40	18.00
0.04600	23.07	6.85	3.37	18.40	18.00
0.04700	23.32	6.92	3.37	18.40	18.00
0.04800	23.57	7.00	3.37	18.40	18.00
0.04900	23.81	7.07	3.37	18.40	18.00
0.05000	24.05	7.14	3.37	18.40	18.00



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

Keller Crossing - Tract 38163 - Storm Drain Inlets												
Q100 - based on rational method, conservative peak flow subarea: 3.92 cfs/Ac ==> Area C1-1												
Q100 - based on rational method, conservative peak flow subarea: 4.0 cfs/Ac ==> Street (Commercial)												
Area	Acre	Peak Flow Q - Hydrology (cfs)	Catch Basin Q - Hydrology (cfs)	CB sizing	CB Condition	Upstream Flowby from	Upstream Flowby Q(cfs)	Catch Basin Q Total (cfs)	Catch Basin Q Int. (cfs)	Q flowby (cfs)	Q flowby to	Lateral Pipe Size (inches)
<b>Line B</b>												
B1-1	3.67	<b>12.50</b>		W=28'	flowby	C1-1	1.54	14.04	10.51	3.53		18"
B1-2	3.22		12.62	W=28'	flowby	B1-1	3.53	16.15	11.42	4.73	B1-2	18"
B1-3a	0.80		3.14	W=14'	flowby	-	-	3.14	3.03	0.11		18"
B1-3b	0.45		1.76	W=14'	flowby	-	-	1.76	1.76	0.00		18"
B1-4	3.57		13.99	W=28'	flowby	B1-2	4.73	18.72	14.10	4.62	B1-4	18"
B1-5a	<b>0.95</b>		3.80	W=14'	sump	B1-4	4.62	8.42	8.42			18"
B1-5b	<b>0.85</b>		3.40	W=7'	sump	-	-	3.40	3.40			18"
B1-6	0.67	<b>Basin</b>										
<b>Line C</b>												
C1-1	1.58	<b>6.20</b>		W=14'	flowby	-	-	6.20	4.66	1.54	B1-1	Street
C1-2	3.63		14.23	W=28'	flowby	-	-	14.23	12.71	1.52	C1-3	18"
C1-3	3.43		13.45	W=28'	flowby	C1-2	1.52	14.97	13.17	1.80	C1-5	18"
C1-4	<b>0.24</b>		0.60	Inlet		-	-					18"
C1-5	4.65		18.23	W=28'	flowby	C1-3	1.80	20.02	15.60	4.42	C1-6b	18"
C1-6a	3.38		13.25	W=14'	flowby	-	-	13.25	7.27	5.98	C1-6b	18"
C1-6b				W=28'	flowby	C1-5+C1-6a	10.40	10.40	9.34	1.06	C1-11	
C1-7	<b>1.95</b>		4.88	Inlet		-	-					18"
C1-8	3.77		14.78	W=14'	flowby	-	-	14.78	11.55	3.23	C1-12	18"
C1-9	2.84	<b>9.15</b>		W=14'	flowby	-	-	9.15	6.33	2.82	C1-11	18"
C1-10	2.56		10.04	W=28'	flowby	-	-	10.04	9.91	0.13	C1-18	18"
C1-11	2.48		9.72	W=14'	sump	C1-5+C1-6	3.88	13.60	13.60			18"
C1-12	3.70		14.50	W=28'	flowby	C1-8	3.23	17.73	12.90	4.83	C1-13	18"
C1-13	3.73		14.62	W=7'	flowby	C1-12	4.83	19.45	13.43	6.02	C1-14	18"
C1-14	3.78		14.82	W=21'	flowby	C1-13	6.02	20.84	13.97	6.87	C1-16a	18"
C1-15	<b>0.74</b>		2.96	W=14'	flowby	-	-	2.96	2.64	0.32	C1-16a	18"
C1-16a	2.04		8.00	W=14'	sump	C1-14+C1-15	7.19	15.19	15.19			18"
C1-16b	1.38		5.41	W=7'	sump			5.41	5.41			18"
C1-17	4.14		16.23	W=14'	sump	-	-	16.23	16.23			18"
C1-18	3.78		14.82	W=14'	sump	C1-10	0.13	14.94	14.94			18"
C1-19	5.65	<b>Basin</b>										
C1-20	2.49	<b>8.10</b>		W=21'	flowby	-	-	8.10	5.70	2.40	C1-22	18"
C1-21	4.63		18.15	W=14'	sump	-	-	18.15	18.15			18"
C1-22	4.36		17.09	W=14'	sump	C1-20	2.40	19.49	19.49			18"
C1-23	3.76		14.74	W=14'	sump			9.19	9.19			24"
C1-24	<b>0.85</b>		3.40	W=5'	sump	-	-	1.07	1.07			18"
C1-25	12.75	<b>Comm.</b>		TBD								18"
C1-26a	<b>1.49</b>		5.96	W=21'	flowby	-	-	5.96	5.12	0.84	HWY 79	18"
C1-26b	<b>0.96</b>		3.84	W=14'	flowby	-	-	3.84	3.00	0.84	HWY 79	18"

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# B1-1, W=28'**

Project Description

Solve For                                      Efficiency

Input Data

Discharge	14.04	ft <sup>3</sup> /s
Slope	0.04740	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	74.88	%
Intercepted Flow	10.51	ft <sup>3</sup> /s
Bypass Flow	3.53	ft <sup>3</sup> /s
Spread	13.32	ft
Depth	0.40	ft
Flow Area	1.91	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	7.36	ft/s
Equivalent Cross Slope	0.05391	ft/ft
Length Factor	0.54	
Total Interception Length	52.26	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# B1-2, W=28'**

Project Description

Solve For

Efficiency

Input Data

Discharge	16.15	ft <sup>3</sup> /s
Slope	0.04740	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	70.72	%
Intercepted Flow	11.42	ft <sup>3</sup> /s
Bypass Flow	4.73	ft <sup>3</sup> /s
Spread	14.13	ft
Depth	0.42	ft
Flow Area	2.13	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	7.58	ft/s
Equivalent Cross Slope	0.05202	ft/ft
Length Factor	0.49	
Total Interception Length	56.62	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# B1-3a, W=14'**

Project Description

Solve For                      Efficiency

**Input Data**

Discharge	3.14	ft <sup>3</sup> /s
Slope	0.01300	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

**Results**

Efficiency	96.63	%
Intercepted Flow	3.03	ft <sup>3</sup> /s
Bypass Flow	0.11	ft <sup>3</sup> /s
Spread	9.08	ft
Depth	0.32	ft
Flow Area	0.96	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	3.27	ft/s
Equivalent Cross Slope	0.06750	ft/ft
Length Factor	0.85	
Total Interception Length	16.51	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# B1-4, W=28'**

Project Description

Solve For

Efficiency

Input Data

Discharge	18.72	ft <sup>3</sup> /s
Slope	0.02220	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	75.34	%
Intercepted Flow	14.10	ft <sup>3</sup> /s
Bypass Flow	4.62	ft <sup>3</sup> /s
Spread	17.54	ft
Depth	0.48	ft
Flow Area	3.21	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	5.83	ft/s
Equivalent Cross Slope	0.04579	ft/ft
Length Factor	0.54	
Total Interception Length	51.80	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# B1-5a, W=14'**

Project Description

Solve For                                  Spread

Input Data

Discharge		8.42	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		14.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread	15.50	ft
Depth	0.44	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# B1-5b, W=7'**

Project Description

Solve For                                      Spread

Input Data

Discharge		3.40	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		7.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread	11.06	ft
Depth	0.36	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-1, W=14'**

Project Description

Solve For                                  Efficiency

Input Data

Discharge	6.20	ft <sup>3</sup> /s
Slope	0.01700	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	75.16	%
Intercepted Flow	4.66	ft <sup>3</sup> /s
Bypass Flow	1.54	ft <sup>3</sup> /s
Spread	11.68	ft
Depth	0.37	ft
Flow Area	1.50	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	4.14	ft/s
Equivalent Cross Slope	0.05835	ft/ft
Length Factor	0.54	
Total Interception Length	25.99	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-2, W=28'**

Project Description

Solve For                                      Efficiency

Input Data

Discharge	14.23	ft <sup>3</sup> /s
Slope	0.01310	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	89.33	%
Intercepted Flow	12.71	ft <sup>3</sup> /s
Bypass Flow	1.52	ft <sup>3</sup> /s
Spread	17.47	ft
Depth	0.48	ft
Flow Area	3.19	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	4.47	ft/s
Equivalent Cross Slope	0.04590	ft/ft
Length Factor	0.71	
Total Interception Length	39.35	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-3, W=28'**

Project Description

Solve For

Efficiency

Input Data

Discharge	14.97	ft <sup>3</sup> /s
Slope	0.01310	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	87.97	%
Intercepted Flow	13.17	ft <sup>3</sup> /s
Bypass Flow	1.80	ft <sup>3</sup> /s
Spread	17.83	ft
Depth	0.49	ft
Flow Area	3.31	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	4.52	ft/s
Equivalent Cross Slope	0.04536	ft/ft
Length Factor	0.69	
Total Interception Length	40.48	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Area C1-4 = Landscape area**

**Worksheet for Curb Inlet On Grade – CB# C1-5, W=28'**

Project Description

Solve For                                      Efficiency

Input Data

Discharge	20.02	ft <sup>3</sup> /s
Slope	0.01530	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	77.90	%
Intercepted Flow	15.60	ft <sup>3</sup> /s
Bypass Flow	4.42	ft <sup>3</sup> /s
Spread	19.42	ft
Depth	0.52	ft
Flow Area	3.90	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	5.13	ft/s
Equivalent Cross Slope	0.04323	ft/ft
Length Factor	0.57	
Total Interception Length	49.32	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-6a, W=14'**

Project Description

Solve For                                  Efficiency

Input Data

Discharge	13.25	ft <sup>3</sup> /s
Slope	0.01530	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	54.88	%
Intercepted Flow	7.27	ft <sup>3</sup> /s
Bypass Flow	5.98	ft <sup>3</sup> /s
Spread	16.45	ft
Depth	0.46	ft
Flow Area	2.84	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	4.67	ft/s
Equivalent Cross Slope	0.04754	ft/ft
Length Factor	0.36	
Total Interception Length	39.17	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Area C1-7 = Offsite Natural Area**

**Worksheet for Curb Inlet On Grade – CB# C1-8, W=28'**

Project Description

Solve For                                      Efficiency

Input Data

Discharge	14.78	ft <sup>3</sup> /s
Slope	0.03150	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	78.14	%
Intercepted Flow	11.55	ft <sup>3</sup> /s
Bypass Flow	3.23	ft <sup>3</sup> /s
Spread	14.83	ft
Depth	0.43	ft
Flow Area	2.33	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	6.34	ft/s
Equivalent Cross Slope	0.05054	ft/ft
Length Factor	0.57	
Total Interception Length	49.10	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-9, W=14'**

Project Description

Solve For                                  Efficiency

Input Data

Discharge	9.15	ft <sup>3</sup> /s
Slope	0.01050	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	69.17	%
Intercepted Flow	6.33	ft <sup>3</sup> /s
Bypass Flow	2.82	ft <sup>3</sup> /s
Spread	15.26	ft
Depth	0.44	ft
Flow Area	2.46	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	3.71	ft/s
Equivalent Cross Slope	0.04968	ft/ft
Length Factor	0.48	
Total Interception Length	29.17	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-10, W=28'**

Project Description

Solve For Efficiency

Input Data

Discharge	10.04	ft <sup>3</sup> /s
Slope	0.01050	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	98.71	%
Intercepted Flow	9.91	ft <sup>3</sup> /s
Bypass Flow	0.13	ft <sup>3</sup> /s
Spread	15.86	ft
Depth	0.45	ft
Flow Area	2.65	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	3.79	ft/s
Equivalent Cross Slope	0.04857	ft/ft
Length Factor	0.91	
Total Interception Length	30.74	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-11, W=14'**

Project Description

Solve For Spread

Input Data

Discharge		13.60	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		14.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread	21.34	ft
Depth	0.56	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-13, W=28'**

Project Description

Solve For Efficiency

Input Data

Discharge	19.45	ft <sup>3</sup> /s
Slope	0.03440	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	28.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	69.02	%
Intercepted Flow	13.43	ft <sup>3</sup> /s
Bypass Flow	6.02	ft <sup>3</sup> /s
Spread	16.30	ft
Depth	0.46	ft
Flow Area	2.79	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	6.97	ft/s
Equivalent Cross Slope	0.04778	ft/ft
Length Factor	0.48	
Total Interception Length	58.51	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-15, W=14'**

Project Description

Solve For

Efficiency

Input Data

Discharge	2.96	ft <sup>3</sup> /s
Slope	0.03440	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	89.02	%
Intercepted Flow	2.64	ft <sup>3</sup> /s
Bypass Flow	0.32	ft <sup>3</sup> /s
Spread	6.85	ft
Depth	0.27	ft
Flow Area	0.60	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	4.91	ft/s
Equivalent Cross Slope	0.07782	ft/ft
Length Factor	0.71	
Total Interception Length	19.80	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-16a, W=14'**

Project Description

Solve For

Spread

Input Data

Discharge		15.19	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		14.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread	22.98	ft
Depth	0.59	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-16b, W=7'**

Project Description

Solve For Spread

Input Data

Discharge		5.41	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		7.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread		15.08	ft
Depth		0.44	ft
Gutter Depression		0.13	ft
Total Depression		0.30	ft





Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-18, W=14'**

Project Description

Solve For    Spread

Input Data

Discharge		14.98	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		14.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread	22.77	ft
Depth	0.59	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft

Keller Crossing – Tr. 38163  
 ATTACHMENT G – Catch Basin Sizing

**Drainage Area C1-19 – Detention Basin**

**Worksheet for Curb Inlet On Grade – CB# C1-20, W=14'**

Project Description

Solve For                                      Efficiency

Input Data

Discharge	8.10	ft <sup>3</sup> /s
Slope	0.01290	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	70.36	%
Intercepted Flow	5.70	ft <sup>3</sup> /s
Bypass Flow	2.40	ft <sup>3</sup> /s
Spread	13.90	ft
Depth	0.41	ft
Flow Area	2.07	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	3.92	ft/s
Equivalent Cross Slope	0.05254	ft/ft
Length Factor	0.49	
Total Interception Length	28.51	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-21, W=14'**

Project Description

Solve For Spread

Input Data

Discharge		18.15	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		14.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread	25.87	ft
Depth	0.65	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-23, W=14'**

Project Description

Solve For                      Spread

Input Data

Discharge	14.74	ft <sup>3</sup> /s
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Curb Opening Length	14.00	ft
Opening Height	0.50	ft
Curb Throat Type	Horizontal	
Local Depression	2.00	in
Local Depression Width	4.00	ft
Throat Incline Angle	90.00	degrees

Results

Spread	22.52	ft
Depth	0.58	ft
Gutter Depression	0.13	ft
Total Depression	0.30	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet In Sag – CB# C1-24, W=7'**

Project Description

Solve For

Spread

Input Data

Discharge		3.40	ft <sup>3</sup> /s
Gutter Width		2.00	ft
Gutter Cross Slope		0.09	ft/ft
Road Cross Slope		0.02	ft/ft
Curb Opening Length		7.00	ft
Opening Height		0.50	ft
Curb Throat Type	Horizontal		
Local Depression		2.00	in
Local Depression Width		4.00	ft
Throat Incline Angle		90.00	degrees

Results

Spread		11.06	ft
Depth		0.36	ft
Gutter Depression		0.13	ft
Total Depression		0.30	ft

Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Drainage Area C1-15 = Commercial Area, TBD**

**Worksheet for Curb Inlet On Grade – CB# C1-26a, W=21'**

Project Description

Solve For    Efficiency

Input Data

Discharge	5.96	ft <sup>3</sup> /s
Slope	0.04650	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	21.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	85.85	%
Intercepted Flow	5.12	ft <sup>3</sup> /s
Bypass Flow	0.84	ft <sup>3</sup> /s
Spread	9.10	ft
Depth	0.32	ft
Flow Area	0.96	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	6.20	ft/s
Equivalent Cross Slope	0.06744	ft/ft
Length Factor	0.66	
Total Interception Length	31.70	ft



Keller Crossing – Tr. 38163  
ATTACHMENT G – Catch Basin Sizing

**Worksheet for Curb Inlet On Grade – CB# C1-26b, W=14'**

Project Description

Solve For                      Efficiency

Input Data

Discharge	3.84	ft <sup>3</sup> /s
Slope	0.04650	ft/ft
Gutter Width	2.00	ft
Gutter Cross Slope	0.09	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.015	
Curb Opening Length	14.00	ft
Local Depression	2.00	in
Local Depression Width	4.00	ft

Results

Efficiency	78.06	%
Intercepted Flow	3.00	ft <sup>3</sup> /s
Bypass Flow	0.84	ft <sup>3</sup> /s
Spread	7.27	ft
Depth	0.28	ft
Flow Area	0.66	ft <sup>2</sup>
Gutter Depression	0.13	ft
Total Depression	0.30	ft
Velocity	5.79	ft/s
Equivalent Cross Slope	0.07570	ft/ft
Length Factor	0.57	
Total Interception Length	24.59	ft