Diamond Estates Subdivision
DRAINAGE CALCULATIONS – SUMMARY
2/8/2023

DESCRIPTION OF PROJECT

Diamond Estates Subdivision is an approximately 14.90 Acre development located in the City of Bryant, Arkansas, north of Highway 5 and east of Midland Road. There is one large drainage basin that flows to north. Discharges will not be detained and in-lieu-fee will be provided for this detention.

Stormwater Calculations were prepared with the intent to comply with the City of Bryant's Drainage Code. Hydraulic calculations were made using the Rational Method. Design frequencies were analyzed for 2, 5, 10, 25, 50, and 100 year return periods.

These calculations are divided into the following sections:

Summary of Drainage Basins

Summary of Inlets

Summary of Pipes

Appendices

Exhibit A – Pre-Development Drainage Basins

Exhibit B – Post-Development Drainage Basins

Diamond Estates Subdivision
DRAINAGE CALCULATIONS – SUMMARY
2/8/2023

SUMMARY OF DRAINAGE BASINS

There is only a drainage basin that flows to north. This discharge will not be captured. In-Lieu-fee is provided for detention. In-lieu-fee calculation is prepared based on the City of Bryant's Drainage Code.

SUMMARY OF INLETS

On the drainage plan you will see labels for all of the inlets for these calculations. The flows shown are for the 10-year return storm. The distance from the face of the curb to the center of the street is 15 feet.

SUMMARY OF PIPES

All pipes used in this project are HDPE or RCP. Therefore, a manning's of 0.012 was used on all pipes in the analysis.

Stormwater Calcs - Diamond Estates Subdivision
Using Rational Method

Pre-development

Calculated Tc values - Drainage Basin 1, 2 & 3

$$Tc = \frac{56 * L^{.6} * n^{.6}}{i^{.4} * S^{.3}} \text{ seconds}$$

L1 =	485		feet
n1 =	0.05		Sluggish Reaches
S1 =	0.031		ft/ft
$I_{assumed}$ =	7.20		inches
$Tc_{calculated}$		488	seconds
$Tc_{calculated}$		8.14	minutes

Tc =	8.14	minutes	Tc for 25-yr Storm from Exhibit 400-1 of Bryant Drainage Manual
I =	7.20	inches	i for 25-yr Storm from Exhibit 400-1 of Bryant Drainage Manual

Use Tc = **8.15** minutes

I_{100} =	9 Inches	I_{10} =	6.5 Inches
I_{50} =	8 Inches	I_{5} =	5.8 Inches
I_{25} =	7.20 Inches	I_{2} =	5 Inches

Stormwater Calcs - Diamond Estates Subdivision
Using Rational Method

Post-development

Calculated Tc values - Drainage Basin 1, 2 & 3

$$Tc = \frac{56 * L^{.6} * n^{.6}}{i^{.4} * S^{.3}} \text{ seconds}$$

L1 =	285	feet
n1 =	0.02	Clean, recently constructed
S1 =	0.031	ft/ft
$I_{assumed}$ =	8.40	inches
$Tc_{calculated}$	193	seconds
$Tc_{calculated}$	3.21	minutes

Tc =	3.21	minutes	Tc for 25-yr Storm from Exhibit 400-1 of Bryant Drainage Manual
I =	8.40	inches	i for 25-yr Storm from Exhibit 400-1 of Bryant Drainage Manual

Use Tc = **5.00** minutes

I_{100} =	10 Inches	I_{10} =	7.2 Inches
I_{50} =	9.2 Inches	I_{5} =	6.5 Inches
I_{25} =	8.40 Inches	I_{2} =	5.6 Inches

Stormwater Calcs - Diamond Estates Subdivision
using Rational Method

Pre-development

Calculated C values - Drainage Basin 1

	Area	C_{100}	C_{50}	C_{25}	C_{10}	C_5	C_2
Greenspace	14.90	0.47	0.43	0.4	0.36	0.34	0.31
Total Area =	**14.90**	**0.47**	**0.43**	**0.40**	**0.36**	**0.34**	**0.31**

(C values taken from Table 400-2 of City of Bryant Drainage Manual)

Forrest/Woodlands, Average 2-7%

Stormwater Calcs - Diamond Estates Subdivision
using Rational Method

Post-development

Calculated C values - Drainage Basin 1

	Area	C_{100}	C_{50}	C_{25}	C_{10}	C_5	C_2
Residential	14.90	0.7	0.65	0.6	0.5	0.4	0.35
Total Area =	**14.90**	**0.70**	**0.65**	**0.60**	**0.50**	**0.40**	**0.35**

(C values taken from Table 2.1 of City of Little Rock Drainage Manual)

Single Family, Residential

Stormwater Calcs - Diamond Estates Subdivision
using Rational Method

Pre-development

Drainage Basin 1

Q_{100} =	63.03	CFS	Q_{50}=	51.26	CFS	Q_{25} =	42.91	CFS	Q_{10} =	34.87	CFS
c =	0.47		c =	0.43		c =	0.40		c =	0.36	
i=	9.00	in/hr	i=	8.00	in/hr	i=	7.20	in/hr	i=	6.50	in/hr
A=	14.90	acres	A=	14.90	acres	A=	14.90	acres	A=	14.90	acres

Q_5 =	29.38	CFS	Q_2 =	23.10	CFS
c =	0.34		c =	0.31	
i=	5.80	in/hr	i=	5.00	in/hr
A=	14.90	acres	A=	14.90	acres

Post-development

Drainage Basin 1

Q_{100} =	104.30	CFS	Q_{50}=	89.10	CFS	Q_{25} =	75.10	CFS	Q_{10} =	53.64	CFS
c =	0.70		c =	0.65		c =	0.60		c =	0.50	
i=	10.00	in/hr	i=	9.20	in/hr	i=	8.40	in/hr	i=	7.20	in/hr
A=	14.90	acres	A=	14.90	acres	A=	14.90	acres	A=	14.90	acres

Q_5 =	38.74	CFS	Q_2 =	29.20	CFS
c =	0.40		c =	0.35	
i=	6.50	in/hr	i=	5.60	in/hr
A=	14.90	acres	A=	14.90	acres

Detention Volume

Pond-1
for Q100

Cundev=	0.47	
Iundev=	9.00	in/hr
Cdev=	0.70	
Idev=	10.00	in/hr
R=	2.77	
A=	14.90	acres
Tc=	5.00	minutes
	60	sec/min

Detention Volume= 12,382 cubic feet

R= (Cdev*Idev)-(Cundev*Iundev)
Detention Volume= R*A*Tc*60

Stormwater Calcs - Diamond Estates Subdivision
using Rational Method

Total Detention= 12381.90 cubic feet

In-Lieu Detention ($10,000/ac-ft) Ratio = Vol (100-yr)/43,560 sq ft /ac

In-Lieu-Fee = 0.284249 ac-ft
= **$2,842.49** **Note - $500 minimum**

PRE DEVELOPED BASIN 1
C=0.47
I=9.0 IN/HR
A=14.90 ACRES
Q_{100} =63.03 CFS

OPEN SPACE
0.2 acres

OPEN SPACE
2.2 acres

MAIL PICKUP
2670 SQ.FT.

N

80' 40' 0 80'

DATE	REVISION	BY

GNE Designing our client's success

GarNat Engineering, LLC
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2909 Military Road
Benton, AR 72015
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FOR USE & BENEFIT:
DIAMOND DEVELOPMENT

PRELIMINARY

CONTENTS:
PRE DEVELOPED BASIN

PROJECT NO:
21206

DATE:
FEB 2023

SHEET NO:
2.0

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POST DEVELOPED BASIN 1
C=0.70
I=10.0 IN/HR
A=14.90 ACRES
Q_{100} =104.30 CFS

N

80' 40' 0 80'

BY	REVISION	DATE

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FOR USE & BENEFIT:
DIAMOND DEVELOPMENT

PRELIMINARY

CONTENTS:
POST DEVELOPED BASIN

PROJECT NO:
21206

DATE:
FEB 2023

SHEET NO:
3.0

J:\Projects\2021 Projects\21206 Diamond Estates Addition\ Rd Dwg\ 3 Misc Later Projects\Drawings\Civil\Drawings\21206 DRAINAGE CALCS.dwg

Stormwater Calcs - Diamond Estates Subdivision
Using Rational Method

Post-development Basin

Calculated Tc values - Drainage Basin CI-1

$$Tc = \frac{56 * L^{.6} * n^{.6}}{i^{.4} * S^{.3}} \text{ seconds}$$

L1 =	700		feet
n1 =	0.013		Smooth Concrete/Asphalt
S1 =	0.031		ft/ft
$I_{assumed}$ =	7.20		inches
$Tc_{calculated}$		271	seconds
$Tc_{calculated}$		4.52	minutes
Tc =	4.52		minutes
I =	7.20		inches
Use Tc =	**5.00**		minutes

Stormwater Calcs - Diamond Estates Subdivision
using Rational Method
POST-DEV C VALUES

CI-1

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.80	0.5	0.6	0.7	Residential
Total Area =	**0.80**	**0.50**	**0.60**	**0.70**	

CI-2

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.16	0.81	0.86	0.95	Asphalt
Total Area =	**0.16**	**0.81**	**0.86**	**0.95**	

CI-3

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.66	0.5	0.6	0.7	Residential
Total Area =	**0.66**	**0.50**	**0.60**	**0.70**	

CI-4

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.14	0.81	0.86	0.95	Asphalt
Total Area =	**0.14**	**0.81**	**0.86**	**0.95**	

CI-5

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.58	0.5	0.6	0.7	Residential
Total Area =	**0.58**	**0.50**	**0.60**	**0.70**	

CI-6

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.11	0.81	0.86	0.95	Asphalt
Total Area =	**0.11**	**0.81**	**0.86**	**0.95**	

JB-2

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.01	0.5	0.6	0.7	Residential
Total Area =	0.01	**0.50**	**0.60**	**0.70**	

CI-8

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.66	0.5	0.6	0.7	Residential
Total Area =	**0.66**	**0.50**	**0.60**	**0.70**	

CI-9

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.12	0.81	0.86	0.95	Asphalt
Total Area =	**0.12**	**0.81**	**0.86**	**0.95**	

CI-10

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	1.75	0.5	0.6	0.7	Residential
Total Area =	**1.75**	**0.50**	**0.60**	**0.70**	

CI-11

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.30	0.81	0.86	0.95	Asphalt
Total Area =	**0.30**	**0.81**	**0.86**	**0.95**	

CI-12

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.50	0.5	0.6	0.7	Residential
Total Area =	**0.50**	**0.50**	**0.60**	**0.70**	

CI-13

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.12	0.81	0.86	0.95	Asphalt
Total Area =	**0.12**	**0.81**	**0.86**	**0.95**	

CI-14

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.09	0.81	0.86	0.95	Asphalt
Total Area =	**0.09**	**0.81**	**0.86**	**0.95**	

CI-15

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.32	0.81	0.86	0.95	Asphalt
Total Area =	**0.32**	**0.81**	**0.86**	**0.95**	

CI-16

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.56	0.81	0.86	0.95	Asphalt
Total Area =	**0.56**	**0.81**	**0.86**	**0.95**	

JB-1

	Area	C_{10}	C_{25}	C_{100}	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	1.37	0.5	0.6	0.7	Residential
Total Area =	**1.37**	**0.50**	**0.60**	**0.70**	

Stormwater Calcs - Diamond Estates Subdivision
using Rational Method
Post Development Flowrates

CI-1

Q_{10} =	2.88	CFS
c =	0.50	
i=	7.20	in/hr
A=	0.80	acres

CI-2

Q_{10} =	0.93	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.16	acres

CI-3

Q_{10} =	2.38	CFS
c =	0.50	
i=	7.20	in/hr
A=	0.66	acres

CI-4

Q_{10} =	0.82	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.14	acres

CI-5

Q_{10} =	2.09	CFS
c =	0.50	
i=	7.20	in/hr
A=	0.58	acres

CI-6

Q_{10} =	0.64	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.11	acres

CI-7

Q_{10} =	0.04	CFS
c =	0.50	
i=	7.20	in/hr
A=	0.01	acres

CI-8

Q_{10} =	2.38	CFS
c =	0.50	
i=	7.20	in/hr
A=	0.66	acres

CI-9

Q_{10} =	0.70	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.12	acres

CI-10

Q_{10} =	6.30	CFS
c =	0.50	
i=	7.20	in/hr
A=	1.75	acres

CI-11

Q_{10} =	1.75	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.30	acres

CI-12

Q_{10} =	1.80	CFS
c =	0.50	
i=	7.20	in/hr
A=	0.50	acres

CI-13

Q_{10} =	0.70	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.12	acres

CI-14

Q_{10} =	0.52	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.09	acres

CI-15

Q_{10} =	1.87	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.32	acres

CI-16

Q_{10} =	3.27	CFS
c =	0.81	
i=	7.20	in/hr
A=	0.56	acres

JB-1

Q_{10} =	4.93	CFS
c =	0.50	
i=	7.20	in/hr
A=	1.37	acres

Diamond Estates Subdivision - GUTTER SPREAD 10-YR STORM

CI-1

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q= Flowrate(cfs)
n=manning's number
k=0.56
S_x= cross slope
S_L= longitudinal slope
T= Gutter Spread

Q	2.88	cfs
n	0.012	
k_u	0.56	
S_x	0.028	
S_L	0.031	
T	**6.33**	ft

CI-2

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.93	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.017	
T	**4.45**	ft

CI-3

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	2.38	cfs
n	0.012	
k_u	0.56	
S_x	0.028	
S_L	0.03	
T	**6.01**	ft

CI-4

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.82	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**3.85**	ft

CI-5

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	2.09	cfs
n	0.012	
k_u	0.56	
S_x	0.028	
S_L	0.03	
T	**5.65**	ft

CI-6

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.64	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**3.52**	ft

CI-7

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.04	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**1.18**	ft

CI-8

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	2.38	cfs
n	0.012	
k_u	0.56	
S_x	0.028	
S_L	0.03	
T	**5.93**	ft

CI-9

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.70	cfs
n	0.012	
k_u	0.56	
S_x	0.028	
S_L	0.03	
T	**3.75**	ft

CI-10

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	6.30	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**8.19**	ft

CI-11

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.75	cfs
n	0.012	
k_u	0.56	
S_x	0.02	
S_L	0.02	
T	**7.04**	ft

CI-12

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.80	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**5.12**	ft

CI-13

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.70	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**3.59**	ft

CI-14

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	0.52	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**3.22**	ft

CI-15

$$T = \left(\frac{Q^* n}{k_u^* S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.87	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**5.19**	ft

CI-16

$$T = \left(\frac{Q^* n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	3.27	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**6.40**	ft

CI-17

$$T = \left(\frac{Q^* n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	4.93	cfs
n	0.012	
k_u	0.56	
S_x	0.03	
S_L	0.03	
T	**7.47**	ft

Diamond Estates Subdivision - CURB INLETS

10-YEAR STORM					Weir				
				Q	Q=3.0LY^1.5		Required	Actual	
Area #	Area	I	C	(cfs)	Q (cfs)	Y (ft)	L (ft)	L (ft)	
CI-1	0.80	7.20	0.50	2.88	2.88	0.49	**2.80**	**4**	4' box
CI-2	0.16	7.20	0.81	0.93	0.93	0.49	**0.91**	**4**	4' box
CI-3	0.66	7.20	0.81	3.85	3.85	0.49	**3.74**	**4**	4' box
CI-4	0.14	7.20	0.50	0.50	0.50	0.49	**0.49**	**4**	4' box
CI-5	0.58	7.20	0.81	3.38	3.38	0.49	**3.29**	**4**	4' box
CI-6	0.11	7.20	0.50	0.40	0.40	0.49	**0.38**	**4**	4' box
JB-2	0.01	7.20	0.50	0.04	0.04	0.49	**0.03**	**4**	4' box
CI-8	0.66	7.20	0.50	2.38	2.38	0.49	**2.31**	**4**	4' box
CI-9	0.12	7.20	0.81	0.70	0.70	0.49	**0.68**	**4**	4' box
CI-10	1.75	7.20	0.50	6.30	6.30	0.49	**6.12**	**7'-6"**	4' box with 3'-6'' wing
CI-11	0.30	7.20	0.81	1.75	1.75	0.49	**1.70**	**4**	4' box
CI-12	0.50	7.20	0.50	1.80	1.80	0.49	**1.75**	**4**	4' box
CI-13	0.12	7.20	0.81	0.70	0.70	0.49	**0.68**	**4**	4' box
CI-14	0.09	7.20	0.81	0.52	0.52	0.49	**0.51**	**4**	4' box
CI-15	0.32	7.20	0.81	1.87	1.87	0.49	**1.81**	**4**	4' box
CI-16	0.56	7.20	0.81	3.27	3.27	0.49	**3.17**	**4**	4' box

Diamond Estates Subdivision - Culvert Capacity

ON SITE DRAINAGE

Pipe Name	From	To	Design Flow (cfs):	Slope (ft/ft):	Diameter (inches)	No. Pipes	Manning's	Area Full (sf)	Wetted Perimeter Full (ft)	Hydraulic Radius Full (ft)	Flow Capacity (cfs)	% Capacity
Pipe 56	CI-1	CI-2	2.88	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	36%
Pipe 55	CI-2	FES-1	3.81	0.0100	18	1	0.012	1.77	4.712	0.375	11.38	34%
Pipe 7	CI-5	CI-3	11.48	0.0150	18	1	0.012	1.77	4.712	0.375	13.94	82%
Pipe 5	CI-4	FES-2	13.11	0.0200	18	1	0.012	1.77	4.712	0.375	16.09	81%
Pipe 6	CI-3	CI-4	12.30	0.0150	18	1	0.012	1.77	4.712	0.375	13.94	88%
Pipe 10	JB-2	CI-5	8.75	0.0100	18	1	0.012	1.77	4.712	0.375	11.38	77%
Pipe 9	CI-6	CI-5	0.64	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	8%
Pipe 10(1)	CI-8	JB-2	8.75	0.0100	18	1	0.012	1.77	4.712	0.375	11.38	77%
Pipe 11	CI-9	CI-8	0.70	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	9%
Pipe 47	CI-10	CI-8	8.05	0.0100	18	1	0.012	1.77	4.712	0.375	11.38	71%
Pipe 48	CI-11	CI-10	1.75	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	22%
Pipe 45	CI-12	CI-13	1.80	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	22%
Pipe 42	CI-15	CI-16	4.89	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	61%
Pipe 46	CI-14	CI-13	0.52	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	7%
Pipe 43	JB-1	CI-15	3.02	0.0100	18	1	0.012	1.77	4.712	0.375	11.38	27%
Pipe 41	CI-16	FES-3	8.16	0.0100	18	1	0.012	1.77	4.712	0.375	11.38	72%
Pipe 44(1)	CI-13	JB-1	3.02	0.0050	18	1	0.012	1.77	4.712	0.375	8.05	38%

BASIN CI-16
C=0.81
I=7.2 IN/HR
A=0.56 AC
Q_{10}=3.27 CFS

BASIN CI-15
C=0.81
I=7.2 IN/HR
A=0.32 AC
Q_{10}=1.87 CFS

JB-1

BASIN CI-13
C=0.81
I=7.2 IN/HR
A=0.12 AC
Q_{10}=0.70 CFS

BASIN CI-14
C=0.81
I=7.2 IN/HR
A=0.09 AC
Q_{10}=0.82 CFS

BASIN CI-12
C=0.50
I=7.2 IN/HR
A=0.50 AC
Q_{10}=1.80 CFS

BASIN CI-11
C=0.81
I=7.2 IN/HR
A=0.30 AC
Q_{10}=1.75 CFS

BASIN CI-9
C=0.81
I=7.2 IN/HR
A=0.12 AC
Q_{10}=0.70 CFS

BASIN CI-10
C=0.50
I=7.2 IN/HR
A=1.75 AC
Q_{10}=6.30 CFS

BASIN CI-6
C=0.81
I=7.2 IN/HR
A=0.11 AC
Q_{10}=0.64 CFS

BASIN CI-8
C=0.50
I=7.2 IN/HR
A=0.66 AC
Q_{10}=2.38 CFS

JB-2

BASIN CI-4
C=0.81
I=7.2 IN/HR
A=0.14 AC
Q_{10}=0.82 CFS

BASIN CI-5
C=0.50
I=7.2 IN/HR
A=0.58 AC
Q_{10}=2.09 CFS

BASIN CI-3
C=0.50
I=7.2 IN/HR
A=0.66 AC
Q_{10}=2.38 CFS

BASIN CI-2
C=0.81
I=7.2 IN/HR
A=0.16 AC
Q_{10}=0.93 CFS

BASIN CI-1
C=0.50
I=7.2 IN/HR
A=0.80 AC
Q_{10}=2.88 CFS

FLOODWAY LIMIT

LIMIT OF FLOOD ZONE AE

N

80' 40' 0 80'

BY	REVISION	DATE

GNE Designing our client's success

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FOR USE & BENEFIT:
DIAMOND DEVELOPMENT

PRELIMINARY

CONTENTS:
INLET BASIN MAP

PROJECT NO:
21206

DATE:
FEB 2023

SHEET NO:
1.0

J:\Projects\2021 Projects\21206 Diamond Centre Addition Rd Imp 5 Mile Lane Property\Drawings\DWG\Design\21206 DRAINAGE CALCS.dwg