Preliminary Drainage Report

For

D & F EQUIPMENT SALES

TONTITOWN, ARKANSAS

MAY 2015

PREPARED BY

ENGINEERING SERVICES, INC.

1207 SOUTH OLD MISSOURI ROAD P.O. BOX 282 SPRINGDALE, ARKANSAS 72764 TELEPHONE (479) 751-8733 FAX NO. (479) 751-8746



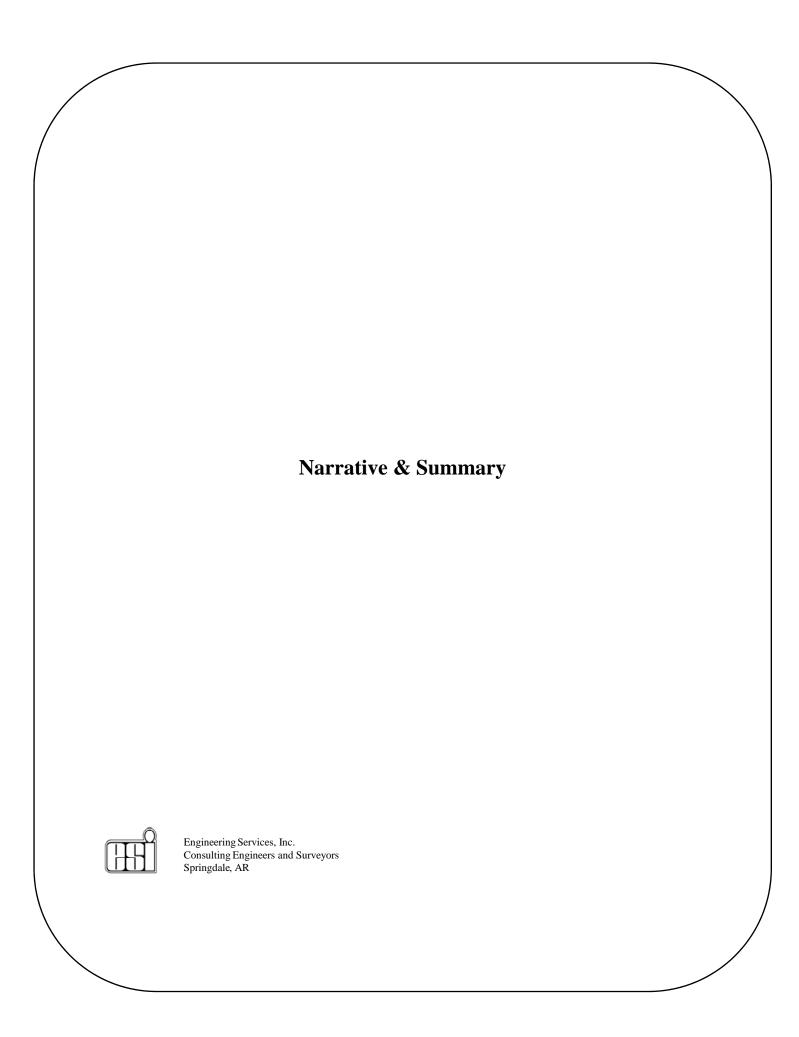
Engineering Services, Inc. Consulting Engineers and Surveyors Springdale, AR

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PROJECT OWNER AND DEVELOPER

D & F Equipment Sales P.O. Box 275 Crossville, AL 35962

PROJECT TITLE

D & F Equipment LSD

PROJECT LOCATION

Lot 19 of the Maestri Subdivision in Tontitown, Arkansas.

PROJECT DESCRIPTION

This large scale development of 1.05 acres includes the construction of a building and associated parking lot.

DRAINAGE ANALYSIS

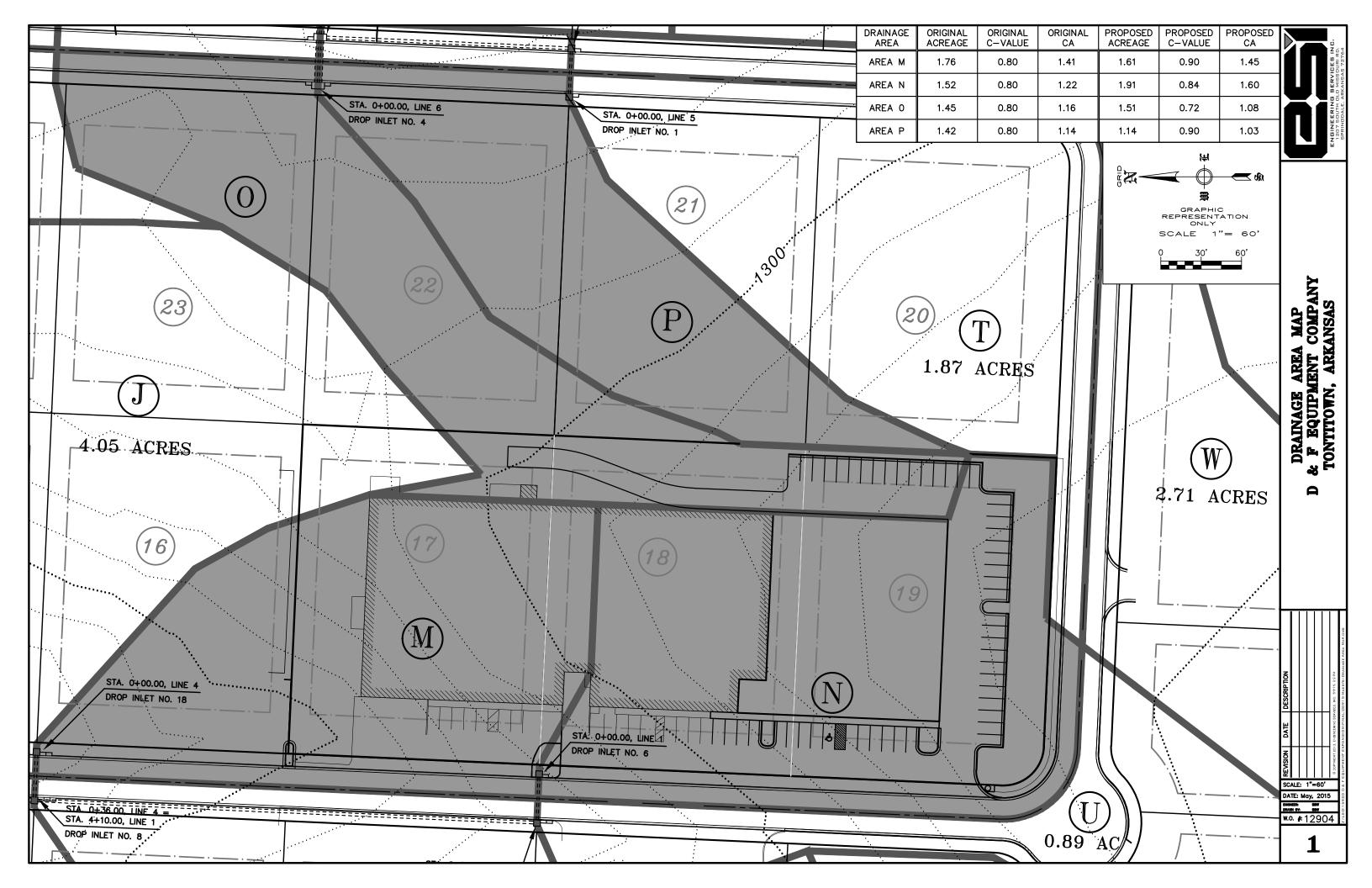
The majority of the runoff for this project enters an existing storm drainage system along Agnes Drive. The drainage area map and drainage calculations from the initial design of Maestri Subdivision have been included with this report. Four drainage areas (Areas M, N, O & P) are shown to be different than what was originally shown on the Maestri Subdivision drainage area map. A C value of 0.80 was used for the initial design of the system for each drainage area. A new C values were established using the actual conditions. A "C" value of 0.40 was used for the grassed/permeable area. A "C" value of 0.90 was used for the paved/impermeable areas. The following chart shows the flows for the initial and proposed designs:

Drainage	Init	ial Design		Prop	osed Desig	n	Difference
Area	Acreage	C Value	Flow	Acreage	C Value	Flow	in Flow
М	1.76	0.80	9.86	1.61	0.90	10.14	0.29
N	1.52	0.80	8.51	1.91	0.84	11.23	2.72
0	1.45	0.80	8.12	1.51	0.72	7.61	-0.51
Р	1.42	0.80	7.95	1.14	0.90	7.18	-0.77

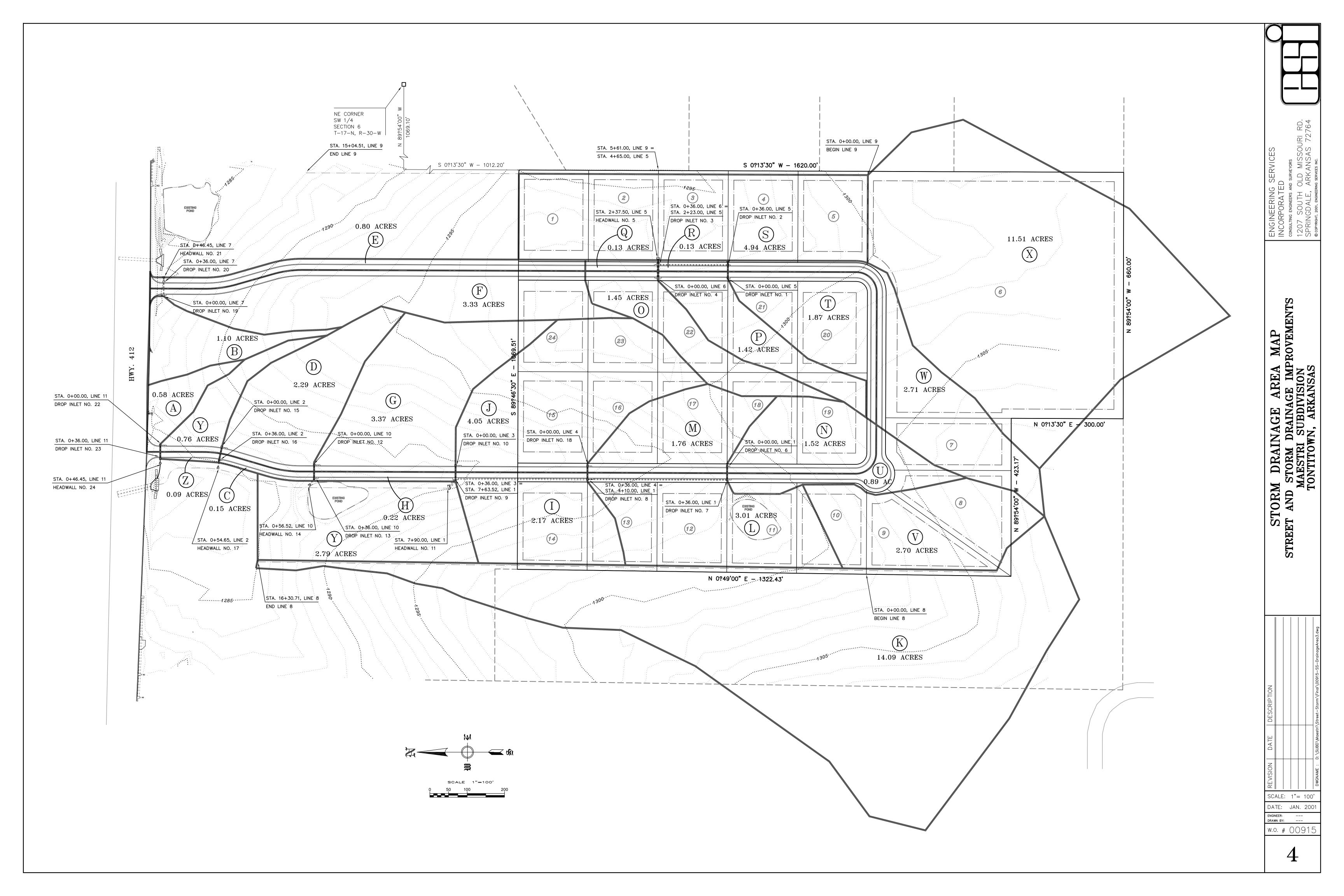
CONCLUSION

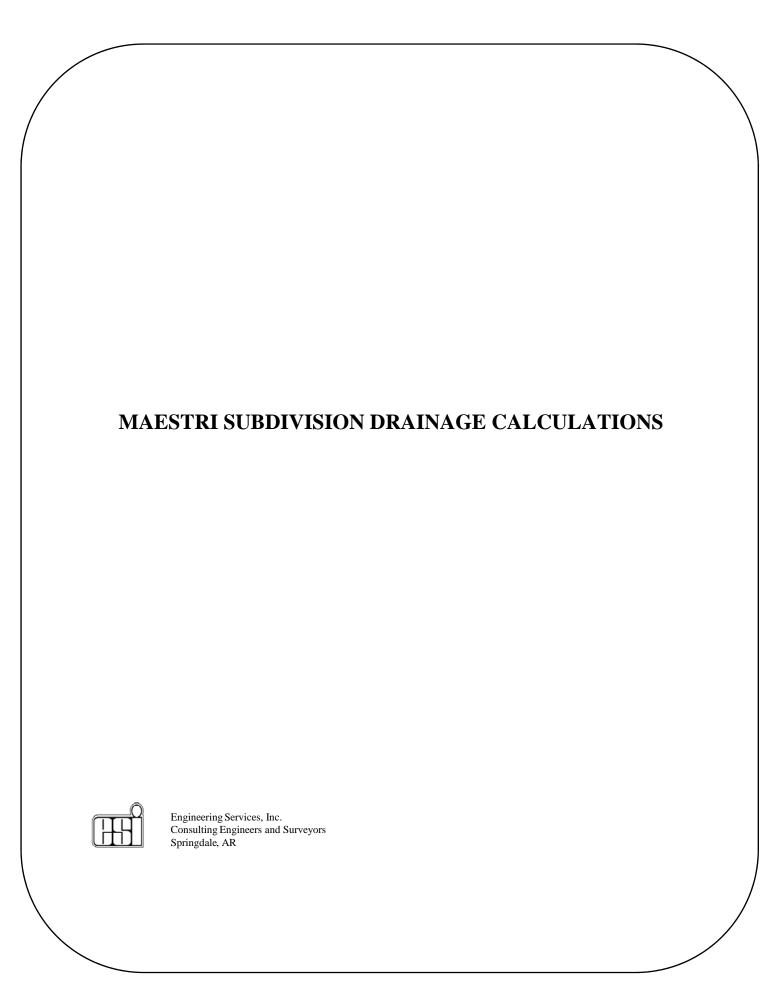
As can be seen from the chart, there is not a significant increase in flows due to this development.











LINE TWO N STA. 0+00-0+36	18.64 6.19 18.64 6.27 18.64 6.28	6.19 36 6.27 18. 6.28 36		1281.92 C 1281.74 C	0.24 1285.10 0.18 1281.74 0.09 1281.65 0.18 1285.34	1281.92 1	285.92
N STA. 0+00-0+38	18.64 6.28	6.27 18. 6.28 36	8.0 0.10	1281.74 0	0.09 1281.65	1281.74 1	1285.92
N STA. 0+00-0+36	18.64 6.28	6.27 18. 6.28 36	8.0 0.10	1281.74 0	0.09 1281.65	1281.74 1	1285.92
O STA. 0+36-0+54.65	18.64 6.28	6.27 18. 6.28 36	8.0 0.10	1281.74 0	0.09 1281.65	1281.74 1	1285.9
NE THREE STA. 0+00-0+36 2.39 2.39 10 - 10 7.0 16.73 24" RCP 0.005 18.6 INE FOUR STA. 0+00-0+36 1.63 1.63 10 - 10 7.0 11.41 124" RCP 0.005 18.6	18.64 6.28	6.28 36	5.0 0.10	1285.52 C			
K STA. 0+00-0+36 2.39 2.39 10 - 10 7.0 16.73 24" RCP 0.005 18.6 LINE FOUR J STA. 0+00-0+36 1.63 1.63 10 - 10 7.0 11.41 1-24" RCP 0.005 18.6).18 1285.34	1285.52 1	289.1
K STA. 0+00-0+36 2.39 2.39 10 - 10 7.0 18.73 24" RCP 0.005 18.65 LINE FOUR J STA. 0+00-0+36 1.63 1.63 10 - 10 7.0 11.41 1-24" RCP 0.005 18.65					0.18 1285.34	1285.52 1	1289.1
LINE FOUR J STA. D+00-0+36 1.63 1.63 10 - 10 7.0 11.41 1-24" RCP 0.005 18.6						11	
J STA. D+00-0+36 1.63 - - 1.63 10 - 10 7.0 11.41 1-24" RCP 0.005 18.6	18.64 5.89	5.89 36	3.0 0.10				
<u> </u>	18.64 5.89	5.89 36	3.0 0.10	400047			
LINE FIVE				1288.17	0.18 1287.99	1288.17 1	292.3
LINE FIVE							
A STA. 0+00-0+36 0.96 0.96 10 - 10 7.0 6.72 18" RCP 0.005 8.6	8.66 5.10	5.10 36	5.0 0.12	1294.29	0.18 1294.11	1294.29 1	297.4
	18.64 6.21	6.21 187	7.00 0.50	1294,11	0.94 1293.17	1294.11 1	297.4
C STA. 2+23-2+37.50 1.23 4.98 B,E 6.21 10 - 10 7.0 43.47 2-24" RCP 0.007 44.	44.12 7.36	7.36 14	.50 0.03	1293.17	0.10 1293.07	1293.17 1	1296.5
LINE SIX E STA. 0+00-0+36	37.28 5.70	5.70 36	6.0 0.10	1 1293 35 (0.18 1293.17	1293.35	1296.5
E 51A. 0+00=0+36 2.04 1 2.04 10 10 10 10 10 2.11 10 10 10 10 10 10 10	07720 0770	<u> </u>				1	
LINE SEVEN							
	20.42 5.85	6.86 36	6.0 0.09	1282.60	0.22 1282.38	1282.60 1	1286.3
1		8.88 10	.45 0.02	1282.38	0.10 1282.28	7	

1 15	IE ONE				ST	TORI	M DI	RAIN	IAG	E C	DMPUTA'	TION:	S (5	0 Y	R)							
L71							"Tc"		<u> </u>			F	IPE DES	SIGN			PIPE/D	ITCH IN	VERTS	ELEV	INLET	4T
SEGMENT NO.	LOCATION	INLET CA	ADDITIONAL CA	FROM SEGMENT	TOTAL CA	OVERLAND FLOW	TIME IN SEGMENT	USED IN DESIGN	INTENSITY "p"	TOTAL "Op" IN PIPE/DITCH	DIAMETER/SIZE EQUIVALENT	SLOPE	CAPACITY	VELOCITY	LENGTH	To PIPE/DITCH L/V/60	INLET	TOTAL FALL	OUTLET ELEVATION	FLOW LINE	TOP ELEVATION	нЕІСНТ
			₹	Œ			MINUTE	S	IN/ HR.	CFS	IN.	FT./	CFS	FT./ SEC.	UN. FT.	MIN.		FEET			FEET	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
F	STA. 0+00-0+36	0.72	-		0.72	10	-	10	7.0	5.06	18" RCP	0.005	8.66	4.81	36.00	0.12	1293.70	0.18	1293.52	1293.70	1296.95	3.25
G	STA. 0+36-4+10.00	1.69	0.72	F	2.41	10		10	7.0	16.87	24" RCP	0.0096	25.83	8.28	374.00	0.75	1291.58	3.59	1287.99	1291.58	1296.95	5.37
-1	STA. 4+10.00-7+63.52	2.12	4.04	G,J	6.16	10		10	7.0	43.13	36" RCP	0.0075	67.31	9.55	353.52	0.62	1287.99	2.65	1285.34	1287.99	1292.39	4.40
1	STA. 7+63.52-7+90.00	1.57	8.55	н,к	10.12	10		10	7.0	70.87	2-30° RCP	0.009	90.68	9.62	26.48	0.05	1285.34	0.24	1285.10	1285.34	1289.15	3.81
0	STA. 0+00-0+38 STA. 0+36-0+54.65	0.21	2.11	N	2.11	10	-	10	7.0	16.24	24" RCP	0.005	18.64	6.27	18.65	0.05	1281.74	0.09	1281.65	1281.74	1285.92	4.18
LII K	NE THREE STA. 0+00-0+36	2.39	T	_	2.39	10	l _	10	7.0	18.73	24" RCP	0.005	18.64	6.28	36.0	0.10	1285.52	0.18	1285.34	1285.52	1289.15	3.63
•	NE FOUR			<u> </u>			<u> </u>		i	1				1	I		1			I		······································
J	STA. 0+00-0+36	1.63	-	-	1.63	10	<u> </u>	10	7.0	11.41	124" RCP	0.005	18.64	5.89	36.0	0.10	1288.17	0.18	1287.99	1288.17	1292.39	4.22
A	STA. 0+00-0+36	0.96	_	_	0.96	10		10	7.0	6.72	18" RCP	0.005	8.66	5.10	36.0	0.12	1294.29	0.18	1294.11	1294.29	1297.45	3.16
3	STA. 0+36-2+23	1.18	0.96	Α	2.14	10		10	7.0	14.99	24" RCP	0.005	18.64	6.21	187.00	0.50	1294.11	0.94	1293.17	1294.11	1297.45	3.34
С	STA. 2+23-2+37.50	1.23	4.98	B,E	6.21	10	_	10	7.0	43.47	2-24" RCP	0.007	44.12	7.36	14.50	0.03	1293.17	0.10	1293.07	1293.17	1296.58	3.41

100 YR GRASS DRAINAGE SWALE COMPUTATIONS

HR. CFS TYPE FT. FT. FT.FT. FT. FT. CFS FT. UN. 3 4 5 6 7 8 11 12 13 14 15 16 17 18 19 20 21 22 23 10.12 10 - 10 7.8 78.94 TRAP 2 6 3:1 2 0.0056 105.25 4.06 377.60 1.55 1285.10 2.11 1282.99

12.35 | 10 | - | 10 | 7.8 | 96.33 | TRAP | 2 | 6 | 3:1 | 2 | 0.0056 | 105.25 | 4.28 | 245.83 | 0.96 | 1282.99 | 1.38 | 1281.61

12.35 | 10 | - | 10 | 7.8 | 96.33 | TRAP | 2 | 6 | 3:1 | - | 0.0056 | 105.25 | 4.28 | 189.09 | 0.74 | 1281.61 | 1.06 | 1280.55

6.34 10 - 10 7.8 49.45 TRAP 2 2 3:1 2 0.0060 65.10 3.80 300 1.32 1299.40 1.81 1297.59

9.96 | 10 | - | 10 | 7.8 | 77.69 | TRAP | 2 | 6 | 3:1 | 2 | 0.0040 | 88.95 | 3.57 | 300 | 1.40 | 1296.39 | 1.20 | 1295.19

10.36 | 10 | - | 10 | 7.8 | 80.80 | TRAP | 2 | 6 | 3:1 | 2 | 0.0063 | 111.63 | 4.26 | 300 | 1.17 | 1295.19 | 1.89 | 1293.30

| 10.48 | 10 | - | 10 | 7.8 | 81.75 | TRAP | 2 | 6 | 3:1 | 2 | 0.0179 | 188.17 | 6.24 | 300 | 0.80 | 1293.30 | 5.36 | 1287.94

10.48 10 - 10 7.8 81.75 TRAP 1.25 10 3:1 - 0.0163 105.76 5.69 180.04 0.53 1287.94 2.94 1285.00

13.01 10 - 10 7.8 101.48 TRAP 2 8 3:1 2 0.0040 107.46 3.78 300 1.32 1291.63 1.20 1290.43

14.27 10 - 10 7.8 111.34 TRAP 2 8 3:1 2 0.0054 124.85 4.32 300 1.16 1290.43 1.62 1288.81

| 15.54 | 10 | - | 10 | 7.8 | 121.20 | TRAP | 2 | 8 | 3:1 | - | 0.0060 | 131.61 | 4.59 | 299.51 | 1.09 | 1288.81 | 1.81 | 1287.00 |

10 7.8 61.07 TRAP 2 4 3:1 2 0.0040 70.80 3.41 300 1.47 1297.59 1.20 1296.39

10 7.8 81.76 TRAP 2 4 3:1 2 0.0172 146.81 6.30 300 0.79 1299.12 5.15 1293.97

10 7.8 91.62 TRAP 2 5 3:1 2 0.0078 103.36 4.62 300 1.08 1293.97 2.34 1291.63

2+37.50-4+65.00 6.21 10 - 10 7.8 48.43 TRAP 2 4 3:1 2 0.0050 79.16 3.48 227.50 1.09 1293.07 1.14 1291.93

LOCATION

7+90.00-11+67.60

11+67.60-14+13.43

14+13.43-16+02.52

0+00-3+00

3+00-6+00

6+00-9+00

12+00-15+00

15+00-16+80.04

9+00-12+00

12+00-14+99.51

LINE EIGHT

LINE NINE

V, K1, K2

V, K1, K2, K3

V, K1, K2, K3, K4

V, K1, K2, K3, K4, K5

V, K1, K2, K3, K4, K5, K6

X, S1

X, S1, S2

X, S1, S2, S3

X. S1, S2, S3, S4

x, S1, S2, S3, S4, S5

LOCATION

CA PRODUCTS MIN. IN./HR. CFS

1 2 3 C 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 N DI 6 STA. 0+00 0.8 1.22 - 1.22 10 7.0 8.54 30.30 2020 0.0124 0.35 10.47 DI 8 5.06 0.50

V DI 7 STA. 0+36 0.8 2.16 - 2.16 10 7.0 15.12 30.30 2020 0.0124 0.43 12.97 DI 12 11.85 0.47 L DI 8 STA, 4+10.00 0.8 2.41 0.47 2.88 10 7.0 20.16 30.30 2020 0.0093 0.50 15.25 DI 16 14.85 0.76 I DI 9 STA. 7+63.52 0.8 1.74 0.76 2.50 10 7.0 17.50 30.30 2020 0.0093 0.48 14.47 DI 12 11.02 0.86

C DI 16 STA. 0+36 0.95 0.14 0.07 0.21 10 7.0 1.47 30.30 2020 0.005 0.21 6.42 DI 8 1.47 -

O,P DI 4 STA. 0+00 0.8 2.30 0.54 2.84 10 7.0 19.88 30.30 2020 NA 0.5 15.00 DI 16 19.88 -

 F
 DI 19
 STA. 0+00
 0.85
 2.83
 2.83
 10
 7.0
 19.81
 30.30
 2020
 NA
 0.5
 15.00
 DI
 12
 19.81

 E
 DI 20
 STA. 0+36
 0.76
 0.76
 0.76
 10
 7.0
 5.32
 30.30
 2020
 NA
 0.5
 15.00
 DI
 4
 5.32

0 DI 15 STA. 0+00 0.8 1.83 1.02 2.85 10 7.0 19.97 30.30 2020 0.005 0.50 15.19 DI 16 14.76 0.74 BYPASS TO DI 23

J DI 10 STA. 0+00 0.8 3.24 0.28 3.52 10 7.0 24.64 30.30 2020 0.0093 0.54 16.44 DI 16 16.75 1.13 BYPASS TO DI 12

M DI 18 STA. 0+00 0.8 1.41 0.50 1.91 10 7.0 13.37 30.30 2020 0.0093 0.43 13.07 DI 12 11.41 0.28 BYPASS TO DI 10

 T
 DI 1
 STA. 0+00
 0.8
 1.50
 1.50
 10
 7.0
 10.50
 30.30
 2020
 0.005
 0.44
 13.41
 DI
 8
 6.72
 0.54
 BYPASS TO DI 4

 W
 DI 2
 STA. 0+36
 0.8
 2.17
 2.17
 10
 7.0
 15.19
 30.30
 2020
 0.05
 0.51
 15.40
 DI
 8
 8.27
 0.99
 BYPASS TO DI 3

 Q,R
 DI 3
 STA. 2+23
 0.8
 0.24
 0.99
 1.23
 10
 7.0
 8.61
 30.30
 2020
 NA
 0.5
 15.00
 DI
 12
 8.61
 SAG CONDITION

G DI 12 STA. 0+00 0.8 2.70 1.13 3.83 10 7.0 26.79 30.30 2020 0.005 0.63 19.06 DI 16 19.63 1.02 BYPASS TO DI 15
H DI 13 STA. 0+36 0.95 0.21 0.86 1.07 10 7.0 7.49 30.30 2020 0.005 0.39 11.82 DI 12 7.01 0.07 BYPASS TO DI 16

 Y
 DI
 22
 STA. 0+00
 0.8
 0.61
 0.74
 1.35
 10
 7.0
 9.45
 30.30
 2020
 0.005
 0.43
 12.89
 DI
 16
 9.35
 0.10
 BYPASS TO HIGHWAY

 Z
 DI
 23
 STA. 0+36
 0.95
 0.09
 0.09
 10
 7.0
 0.63
 30.30
 2020
 0.005
 0.15
 4.67
 DI
 4
 0.63
 - NO BYPASS

DRAIN	AGE AREA	N	TOTAL
NO.	ACRES	CMPSTE	CA
Α	0.58	0.80	0.46
മ	1.10	0.80	0.88
Ç	0.15	0.95	0.14
D	2.29	0.80	1.83
E	0.80	0.95	0.76
F	3.33	0.85	2.83
G	3.37	0.80	2.70
Н	0.22	0.95	0.21
į	2.17	0.80	1.74
J	4.05	0.80	3.24
К	14.09	0.50	7.05
L	3.01	0.80	2.41
М	1.76	0.80	1.41
N	1.52	0.80	1.22
o	1.45	0.80	1.16
Р	1.42	0.80	1.14
Q	0.13	0.95	0.12
R	0.13	0.95	0.12
s	4.94	0.80	3.95
Ť	1.87	0.80	1.50
٥	0.89	0.85	0.76
٧	2.70	0.80	2.16
₩	2.71	0.80	2.17
Х	11.51	0.80	9.21
Y	0.76	0.80	0.61
Z	0.09	0.95	0.09

FT./FT. FEET

FEET CFS 3

TIME OF CONCENTRATION

TIME OF CONCENTRATION	LINE ONE
DRAINAGE AREA N TOTAL	PIPE SEGMENT CAPACITY QIN SO y* 0 v n
	QUANTITY NO. LOCATION CFS CFS FT/FT FT. SQ FT.FT/SEC RC
A 0.58 0.80 0.46	1-18" RCP F 0+00-0+36 8.66 5.06 0.005 0.86 1.1 4.81 0.012
	1-24" RCP G 0+36-4+10 25.83 16.87 0.0096 1.24 2.0 8.28 0.012
├	1-36" RCP H 4+10-7+63.52 67.31 43.13 0.0075 1.83 4.50 9.55 0.012
	2-30" RCP 1 7+63.52-7+90 90.68 70.87 0.009 1.76 7.40 9.62 0.012
E 0.80 0.95 0.76	
F 3.33 0.85 2.83	
	LINE TWO
	1-24" RCP N 0+00-0+36 18.64 14.77 0.005 1.42 2.4 6.19 0.012
1 2.17 0.80 1.74	1-24" RCP O 0+36-0+54.65 18.64 16.24 0.005 1.54 2.6 6.27 0.012
J 4.05 0.80 3.24	
4.00 0.50 7.05	
	LINE THREE
L 3.01 0.80 2.41 M 1.76 0.80 1.41	1-24" RCP K 0+00-0+36 18.64 16.73 0.005 1.58 2.7 6.28 0.012
N 1.52 0.80 1.22	
······································	LINE FOUR
harden between the state of the	1-24" RCP J 0+00-0+36 18.64 11.41 0.005 1.18 1.9 5.89 0.012
5 4.04 0.00 7.05	
	LINE FIVE
	1-18" RCP A 0+00-0+36 8.66 6.72 0.005 1.05 1.3 5.10 0.012
	1-24" RCP B 0+36-2+23 18.64 14.99 0.005 1.44 2.4 6.21 0.012
V 2.70 0.80 2.16 W 2.71 0.80 2.17	2-24" RCP C 2+23-2+37.50 44.12 43.47 0.007 1.78 3.0 7.36 0.012
	10.00 MIN.
	UNE SIX 2-24" RCP E 0+00-0+36 37.28 19.88 0.005 1.09 1.7 5.70 0.012
2 0.09 0.93 0.09	2-24" RCP E 0+00-0+36 37.28 19.88 0.005 1.09 1.7 5.70 0.012
	LINE SEVEN
r	1-24" RCP P 0+00-0+36 20.42 19.81 0.006 1.73 2.9 6.86 0.012
<u> </u>	1-24" RCP Q 0+36-0+46.45 26.36 25.13 0.01 1.69 2.8 8.88 0.012
	LINE TEN
r	1-24" RCP L 0+00-0+36 20.42 19.63 0.006 1.71 2.9 6.87 0.012
	1=24" RCP M 0+36-0+56.52 27.65 26.60 0.011 1.71 2.9 9.30 0.012
	LINE ELEVEN
	1-18" RCP R 0+00-0+36 9.48 9.45 0.006 1.37 1.7 5.57 0.012
	1-18" RCP S 0+36-0+46.45 10.24 10.08 0.007 1.33 1.7 6.08 0.012
·	* DEPTH OF FLOW
INITET COMPLITATIONS (SO YP)	
INLET COMPUTATIONS (50 YR)	
GUTTER PROPERTIES INLET SIZING	

REMARKS

BYPASS TO DI 8

SAG CONDITION

								٧	ELOCITY	' HËAD	LOSSE	5		28 KB		
INLET STATION	OUTLET WATER SURFACE ELEV.	D _o	Qo	Lo	S _{fo}	Н _Ť	٧o	Qį	٧į	^H tm	Нe	нј	НЬ	TOTAL H & HEAD LOŚSES	HYDRAULIC GRADE	TOP RING OR GUTTER
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
7+63.52	1287.35	2-30"	70.87	26.48	0.0064	0.17	9.62	43.13	8.55 6.28			0.53		0.70	1288.05	1289.15
4+10	1288.05	36"	43.13	353.52	0.0036	1.26	9.55		8.28	-	_	0.96	-	2.22	1290.27	1292.39
0+36.00	1291.49	24"	16.87	374.0	0.0047	1.79	8.28	5.06	4.81	_	-	0.96	0.75	3.50	1294.98	1296.95
0+00	1294.98	18"	5.06	36.0	0.0020	0.07	4.81	5.06		0.36	0.18		***	0.61	1295.59	1296.95

FLOW COMPUTATIONS (100 YR)

			:					٧	ELOCITY	/ HËAD	LOSSE	\$		48 E		~
NLET FATION	OUTLET WATER SURFACE ELEV.	Do	Qo	Lo	Sfo	Hf	٧o	Q;	٧į	^H tm	Нe	нј	Ηъ	TOTAL H & HEAD LOŚSES	HYDRAULIC GRADE	TOP RING OR GUTTER
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
-63.52	1287.35	2-30"	70.87	26.48	0.0064	0.17	9.62	43.13 -16.73	8.55 6.28			0.53		0.70	1288.05	1289.15
4+10	1288.05	36"	43.13	353.52	0.0036	1.26	9.55	16.87		_	_	0.96	-	2.22	1290.27	1292.39
-36.00	1291.49	24"	16.87	374.0	0.0047	1.79	8.28	5.06	4.81	-	-	0.96	0.75	3.50	1294.98	1296.95
)+00	1294.98	18	5.06	36.0	0.0020	0.07	4.81	5.06		0.36	0.18		-	0.61	1295.59	1296.95

								٧	ELOCITY	HEAD	LOSSES	5		နှာ ငှင့		~
ET ION	OUTLET WATER SURFACE ELEV.	Do	Qo	Lo	Sfo	Hf	٧o	Qį	٧١	H tm	Нe	Н	Ηъ	TOTAL H & HEAD LOSSES	HYDRAULIC GRADE	TOP RING OR GUTTER
******	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
.52	1287.35	2-30"	70.87	26.48	0.0064	0.17	9.62	43.13 16.73	8.55 6.28			0.53		0.70	1288.05	1289.15
0	1288.05	36"	43.13	353.52	0.0036	1.26	9.55	16.87	8.28 5.89	_	-	0.96	÷	2.22	1290.27	1292.39
.00	1291.49	24"	16.87	374.0	0.0047	1.79	8.28	5.06	4.81	_	-	0.96	0.75	3.50	1294.98	1296.95
 10	1294.98	18"	5.06	36.0	0.0020	0.07	4.81	5.06		0.36	0.18		***	0.61	1295.59	1296.95

STATION	SURFACE ELEV.	D _o	Q _o	Lo	S _{fo}	Нf	V _o	Qį	٧į	H tm	He	Нј	Ηъ	TOTAL HEAD	HYDR/ GRA	TOP R OR GU
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
7+63.52	1287.35	2-30"	70.87	26.48	0,0064	0.17	9.62	43.13 16.73	8.55 6.28			0.53		0.70	1288.05	1289.15
4+10	1288.05	36"	43.13	353.52	0.0036	1.26	9.55	16.87		_	-	0.96	-	2.22	1290.27	1292.39
0+36.00	1291.49	24"	16.87	374.0	0.0047	1.79	8.28	5.06	4.81	-	-	0.96	0.75	3.50	1294.98	1296.95
0+00	1294.98	18"	5.06	36.0	0.0020	0.07	4.81	5.06		0.36	0.18			0.61	1295.59	1296.95
LINE TWO	1283.75	24"	16.24	18.65	0.0044	80.0	6.27	14.77	6.19		-	0.07	0.61	0.76	1284.51	1285.92
	1						/	T	l		r			r	T	
UT 10				í						<u> </u>	ļ			<u> </u>		
0+00	1284.51	24"	14.77	36.0	0.0036	0.13	6.19	14.77	-24	0.59	0.30	,ua	## \$	1.02	1285.53	1285.92
	1284.51	24" 24"	14.77	36.0 36.0	0.0036		6.19	16.73	***	0.59	0.30		anh	1.02	1285.53	
0+00	1284.51 EE 1288.05														<u> </u>	
0+00 LINE THR 0+00	1284.51 EE 1288.05					0.17									<u> </u>	1289.15
0+00 LINE THR 0+00	1284.51 EE 1288.05	24"	16.73	36.0	0.0047	0.17	5.89	16.73		0.60	0.30			1.07	1289.12	
O+00 LINE THR O+00 LINE FOU	1284.51 EE 1288.05	24"	16.73	36.0	0.0047	0.17	6.28	16.73	6.21	0.50	0.30			1.07	1289.12	1289.15
O+00 LINE THR O+00 LINE FOU O+00	1284.51 EE 1288.05 R 1290.27	24"	11.41	36.0	0.0047	0.17	5.89	11.41	6.21	0.50	0.30			1.07	1289.12	1289.15

0+00 | 1295.44 | 2-24" | 19.88 | 36.0 | 0.0016 | 0.06 | 5.70 | 19.88 | - | 0.50 | 0.25 | - | - | 0.81 | 1296.25 | 1296.58

0+36 | 1283.88 | 24" | 25.13 | 10.45 | 0.01 | 0.10 | 8.88 | 19.81 | 6.86 | - | - | 0.65 | 0.34 | 1.09 | 1284.97 | 1286.32 0+00 1284.97 24" 19.81 36 0.0065 0.24 6.86 19.81 - 0.73 0.37 - - 1.34 1286.31 1286.32

04-36 | 1282.52 | 18" | 10.08 | 10.45 | 0.0079 | 0.08 | 6.08 | 9.45 | 5.57 | -- | -- | 0.12 | -- | 0.20 | 1282.72 | 1284.95 0+00 | 1282.72 | 18" | 9.45 | 36.0 | 0.0069 | 0.25 | 5.57 | 9.45 | - | 0.48 | 0.24 | - | - | 0.97 | 1283.69 | 1284.95

DESCRIPTION				DWGNAME: D: \SUBD\Maestr\\Street-Storm\Final\00915-Maestr\-SSCalculations.dwg
DATE				SUBD\Maestri\S
REVISION				DWGNAME: D: \5
SC	ALE:	N	ONE	
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ENGII DRAV		B.	M	

STORM STORM

DRAINAGE CALCULATIONS
STORM DRAINAGE IMPROVEMENTS
MAESTRI SUBDIVISION
TONTITOWN, ARKANSAS

AND SURVE INTO SOURI RD. ARKANSAS 72764

w.o. # 00915