

Analyzer Report

Drainage Structure Analyzer

Culvert Hydraulic Analysis

Date: Friday, January 27, 2012 11:04:59 AM

Input Data

Shape	Circular
Material	RC C76-A
Roughness	0.013000
Entrance Edge Smooth	tapered inlet throat
Number of Barrels	. 1
Length	36.0000 ft
Slope	0.5600%
Tailwater	0.0000 ft
Inlet Control Equation	Entrance Loss
Size (W x T):	60.00 x 5.0000
Flow Rate	106 0000 cfs

Output Results

Headwater Critical Depth Normal Depth	106.0000	cfs ft/s ft ft ft
Normal Depth Size (W x T):	2.6284 60.00 x 5.0000	ft

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	,	
Shape	Circular	
Material	RC C76-A	
Roughness	0.013000	
Entrance Edge Smooth	tapered inlet throat	
Number of Barrels	1	
Length	98.3600	ft
Slope	2.6636%	
Tailwater	0.0000	ft
Inlet Control Equation	Entrance Loss	
Size (W x T):	48.00 x 4.0000	
Flow Rate	217, 9200	cfs

Output Results

Flow Rate		217.9200	cfs
Control		Inlet	
Capacity		234.4336	cfs
Manning's Velocity		21.1886	ft/s
Headwater		9.4010	ft
Critical Depth		3.8890	
Normal Depth		3.0509	ft.
Size (W x T):	48.00	x 4.0000	

Results:

```
InRoads Storm & Sanitary Design Log
Drainage File: P:\20110349\COP\Control\Data\27_29-inlets 1cfs.sdb
Design File: P:\20110349\CDP\Design\20110349utility_27-29.dgn
Display Log: P:\20110349\CDP\Design\design.log
Date: Wednesday, January 25, 2012 5:02:02 PM
Designing inlet IN5
    WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
          Gutter Flow:
                                0.1000 cfs
                                                                Flow From: Injected Storm
                 Status:
                             6.5000 ft
0.1000 cfs
100.0000 %
0.4196 ft
         Inlet Length:
                                                             Inlet Width:
                                                                                    2.0000 ft
     Flow Downstream:
                                                                Bypass To:
Capacity:
          Percent Cap:
                                                                                    0.0000 cfs
     Spread:
Depth in Gutter:
                                0.1678 ft
                                                        Assigned Bypass:
                                                                                       N/A
Designing pipe SDP1
WARNING: Full flow velocity is greater than maximum (10.0000)
  Results:
Total Flow:
                                0.1000 cfs
                                                                Flow From:
                                                                                 Upstream
                              Fixed
18.0000 in
0.0723 ft
0.1150 ft
3.1901 ft/s
                                                                     slope:
                                                                                  0.0459 ft/ft
18.0000 in
        Pipe Width:
Depth of Flow:
                                                             Pipe Height:
Flow Status:
                                                                                  Partial
      Critical Depth:
                                                                 Capacity:
                                                                                  22,4978 cfs
       Velocity:
Froude Number:
                                                             Flow Regime: SuperCritical
Designing inlet IN4
   WARNING: Inlet forced to capture all flow, ignoring capacity calculations. WARNING: Pipe Too large for valid connection to inlet.
  Results:
          Gutter Flow:
                                0.1000 cfs
                                                                Flow From: Injected Storm
                Status:
                                 Fixed
                             6.5000 ft
0.2000 cfs
100.0000 %
        Inlet Length:
                                                              Inlet Width:
                                                                                    2.0000 ft
                                                                                   0.0000 cfs
0.0000 cfs
     Flow Downstream:
                                                                Bypass To:
Capacity:
          Percent Cap:
                Spread:
                                0.4196
     Depth in Gutter:
                                                        Assigned Bypass:
                                0.1678 ft
                                                                                       N/A
Designing pipe SDP8
WARNING: Full flow velocity is greater than maximum (10.0000)
  Results:
Total Flow:
                                0.2000 cfs
                                                                Flow From:
                                                                                 Upstream
                                                                                  0.0864 ft/ft
24.0000 in
                                                                     slope:
                                 Fixed
                Status:
      Pipe Width:
Depth of Flow:
Critical Depth:
                               24.0000 in
                                                             Pipe Height:
                                0.0803 ft
0.1520 ft
                                                                                  Partial
66.5081 cfs
                                                             Flow Status:
                                                                 Capacity:
                                4.7098 ft/s
       Froude Number:
                                3.5739
                                                             Flow Regime: SuperCritical
WARNING: Pipe Too large for valid connection to inlet.
Designing inlet IN6
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
  Results:
          Gutter Flow:
                                0.1000 cfs
                                                                Flow From: Injected Storm
        Inlet Length:
                               6.5000 ft
0.1000 cfs
0.0000 %
0.4196 ft
                                                                                   2,0000 ft
                                                             Inlet width:
                                                                                   0.0000 cfs
0.0000 cfs
     Flow Downstream:
                                                                Bypass To:
Capacity:
          Percent Cap:
                             100.0000
                Spread:
     Depth in Gutter:
                                0.1678 ft
                                                        Assigned Bypass:
                                                                                       N/A
Designing pipe SDP31 WARNING: Full flow velocity is greater than maximum (10.0000)
```

Total Flow: 0.1000 cfs Flow From: 0.0459 ft/ft 18.0000 in Status: Fixed slope: Pipe Width: Depth of Flow: Critical Depth: 18.0000 in 0.0723 ft 0.1150 ft Pipe Height: Flow Status: Partial 22.5116 cfs Capacity: 3.1901 2.5489 velocity: .1901 ft/s Froude Number: Flow Regime: SuperCritical Designing inlet IN7
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet. Results: 0.1000 cfs Flow From: Injected Storm Gutter Flow: Status: Inlet Length: Fixed 6.5000 ft 0.2000 cfs 100.0000 % 0.4196 ft Inlet Width: 2.0000 ft 0.0000 cfs 0.0000 cfs Bypass To: Capacity: Flow Downstream: Percent Cap: 0.4196 ft 0.1678 ft Spread: Depth in Gutter: Assigned Bypass: N/A Designing pipe SDP32 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 0.2000 cfs Flow From: Upstream 0.0385 ft/ft 24.0000 in slope: Fixed Status: Pipe Width: Pipe Width: Depth of Flow: Critical Depth: Velocity: 24.0000 Pipe Height: 0.0970 ft 0.1520 ft 3.5578 ft/s 2.4541 Partial 44.3795 cfs Flow Status: Capacity: Froude Number: Flow Regime: SuperCritical WARNING: Pipe Too large for valid connection to inlet. Designing manhole SDMH19 $\,$ Results: Total Flow: 0.4000 cfs Flow From: Upstream Fixed 6.0000 ft Status: Chamber Width: Chamber Length: 6.0000 ft Designing pipe SDP9
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 0.4000 cfs Flow From: Upstream Fixed 36.0000 in 0.1275 ft 0.1940 ft 3.8495 ft/s 2.3176 Slope: Pipe Height: Flow Status: 0.0312 ft/ft 36.0000 in Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: Partial 117.7762 cfs Capacity: Froude Number: Flow Regime: SuperCritical Designing pipe SDP33 WARNING: Full flow velocity is greater than maximum (10,0000) Results: Total Flow: 260,9000 cfs Flow From: Injected Storm Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: Slope: Pipe Height: Flow Status: 0.0149 ft/ft Fixed 48.0000 in 48.0000 in 4.0000 ft 4.0000 ft 20.7618 ft/s Full 175.3907 cfs Capacity: Froude Number: 0.0000 Flow Regime: Subcritical Designing manhole SDMH18 Total Flow: 261.3000 cfs Flow From: Upstream Chamber Width: 8,0000 ft Chamber Length: 8.0000 ft Designing pipe SDP10
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 261.3000 cfs Flow From: Upstream Page 2

SD network analysis.txt

SD	network	analysis	.txt	
	Slope	: 0.0	339	ft/ft

4			SD network a	nalysis.txt
Status: Pipe Width: Depth of Flow: Critical Depth:	Fixed 48.0000 3.2344 3.9450	in ft ft	Slope: Pipe Height: Flow Status: Capacity:	48.0000 in Partial
Velocity: Froude Number:	24.0018 2.2752			SuperCritical
			, ron nog mor	
Designing manhole SDMH	17			
Results: Total Flow:	261.3000		Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing pipe SDP11 WARNING: Full flow	velocity	is gr	eater than maximum (10.0	0000)
Results:	261.3000	e	claw cham.	· ·
Total Flow:		CIS	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth:	Fixed 48.0000 3.2189 3.9450	ft ft	Slope: Pipe Height: Flow Status: Capacity:	0.0342 ft/ft 48.0000 in Partial 265.7939 cfs
Velocity: Froude Number:	24.1102 2.2993	ft/s	Flow Regime:	SuperCritical
Designing manhole SDMH	16			
Results: Total Flow:	261.3000	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing pipe SDP12 WARNING: Full flow	velocity.	is gr	eater than maximum (10.0	0000)
Results: Total Flow:	261.3000	cfs	Flow From:	Upstream
Status:	Fixed	0.0	Slope:	0.0377 ft/ft
Pipe Width: Depth of Flow:	48.0000 3.0724	in ft	Pipe Height: Flow Status:	48.0000 in Partial
Critical Depth: Velocity:	3.9450 25.2277	ft	Capacity:	278.9148 cfs
Froude Number:	2.5394	, .	Flow Regime:	SuperCritical
Designing manhole SDMH	15			•
Results:			_	
Total Flow:	261.3000	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing wine CDD13				
Designing pipe SDP13 WARNING: Full flow	velocity	is gr	eater than maximum (10.0	0000)
Results: Total Flow:	261.3000	cfs	Flow From:	Upstream
Status:	Fixed		Slope:	0.0356 ft/ft
Pipe Width: Depth of Flow:	48.0000 3.1555	ft	Pipe Height: Flow Status:	48.0000 in Partial
Critical Depth: Velocity:	3.9450 24.5729	ft ft/s	Capacity:	271.1046 cfs
Froude Number:	2.4005		Flow Regime:	SuperCritical
Designing inlet IN14 WARNING: Spread is WARNING: Inlet for	greater t ced to cap	chan ma oture a	aximum spread (2.5000 fi all flow, ignoring capac	:) city calculations.
Results: Gutter Flow:	0.1000	cfs	Flow From:	Injected Storm
Status:	Fixed	£.		2 0000 5
Inlet Length: Flow Downstream:	6.5000 0.1000	cfs	Inlet Width: Bypass To:	
Percent Cap: Spread:	100.0000 3.0155	ft	Capacity:	
Depth in Gutter:	0.0514	Γ τ .	Assigned Bypass: Page	N/A ± 3

SD network analysis.txt Designing pipe SDP39
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 0.1000 cfs Flow From: Upstream 0.0406 ft/ft 18.0000 in Status: Fixed Slope: Pipe Width: Depth of Flow: Critical Depth: Velocity: 18.0000 in 0.0744 ft 0.1150 ft Pipe Height: Flow Status: Partial 21.1557 cfs Capacity: 3.0575 ft/s 2.4078 Froude Number: Flow Regime: SuperCritical Designing inlet IN11
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet. Results: Gutter Flow: 0.1000 cfs Flow From: Injected Storm Status: Inlet Length: Flow Downstream: Fixed 6.5000 ft 0.2000 cfs 100.0000 % 2.4244 ft 0.0586 ft Inlet Width: 2,0000 ft Bypass To: Capacity: 0.0000 cfs 0.0000 cfs Percent Cap: Spread: Depth in Gutter: Assigned Bypass: N/A Designing pipe SDP29
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 0.2000 cfs Flow From: Upstream Slope: Pipe Height: 0.0894 ft/ft 24.0000 in Status Fixed Pipe Width: 24.0000 in Depth of Flow: Critical Depth: Velocity: 0.0797 ft 0.1520 ft 4.7626 ft, Partial 67.6583 cfs Flow Status: Capacity: ft/s Froude Number: 3.6276 Flow Regime: SuperCritical WARNING: Pipe Too large for valid connection to inlet.
Designing inlet IN3
WARNING: Inlet forced to capture all flow, ignoring capacity calculations. Results: Gutter Flow: 0.1000 cfs Flow From: Injected Storm Status: 6.5000 ft 0.1000 cfs 100.0000 % 2.0000 ft 0.0000 cfs Inlet Length: Inlet Width: Flow Downstream: Bypass To: Capacity: Percent Cap: 0.0000 cfs Spread: Depth in Gutter: 0.5781 ft 0.1385 ft Assigned Bypass: N/A Designing pipe SDP38
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 0.1000 cfs Flow From: Upstream ' 0.0406 ft/ft 18.0000 in 0.0744 ft 0.1150 ft 3.0575 ft/ 2.4078 Pipe Width: Depth of Flow: Critical Depth: Pipe Height: Flow Status: 18.0000 in Partial Capacity: Velocity: Froude Number: Flow Regime: SuperCritical Designing inlet IN8
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet. Results: Gutter Flow: 0.1000 cfs Flow From: Injected Storm Fixed

Designing pipe SDP30
WARNING: Full flow velocity is greater than maximum (10.0000)
Page 4

6.5000 ft

0.2000 cfs 100.0000 % 0.4196 ft

0.1678 ft

Inlet Width:

Assigned Bypass:

Bypass To: Capacity: 0.0000 cfs 0.0000 cfs

N/A

Status: Inlet Length:

Flow Downstream:

Percent Cap: Spread: Depth in Gutter:

			SD network a	nalysis.txt
Results: Total Flow:	0.2000	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth: Velocity:	24.0000 0.0910 0.1520	ft ft	Slope: Pipe Height: Flow Status: Capacity:	24.0000 in
Froude Number:	2.7864	10/3	Flow Regime:	SuperCritical
WARNING: Pipe To Designing manhole SD	o large for MH10	valid conn	ection to inlet.	
Results: Total Flow:	261.7000	cfs	Flow From:	Upstream
Status: Chamber width:		ft	Chamber Length:	8.0000 ft
Designing pipe SDP40 WARNING: Full flo	ow velocity	is greater	than maximum (10.	
Results: Total Flow:			Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth:	3.0835 4.3100	in ft ft	Slope: Pipe Height: Flow Status: Capacity:	54.0000 in
Velocity: Froude Number:	2.3827	11/5	Flow Regime:	SuperCritical
Designing manhole SDM	мн1			
Results: Total Flow:	261.7000	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 8.0000	ft	Chamber Length:	8.0000 ft
	ow velocity	is greater	than maximum (10.0	0000)
Results: Total Flow:	213.6780	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: Froude Number:	Fixed 48.0000 3.0384 3.8800 20.8627 2.1250	ft ft	Slope: Pipe Height: Flow Status: Capacity:	48.0000 in
Designing manhole SD			r ron regimer	Super of Tereur
Results:	4110			•
Total Flow:	213.6780	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing pipe SDP16 WARNING: Full flo	ow velocity	is greater	than maximum (10.0	0000)
Results: Total Flow:	213.6780	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth: Velocity:	Fixed 48.0000 2.7600 3.8800 23.1035	ft ft	Slope: Pipe Height: Flow Status: Capacity:	0.0328 ft/ft 48.0000 in Partial 260.1014 cfs
Froude Number:	2.5763	- ~, -	Flow Regime:	SuperCritical
Designing manhole SDN	ин6			•
Results: Total Flow:	213.6780	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft

SD network analysis.txt

Designing pipe SDP17			SD IICCIOTR G	
WARNING: Full flow	velocity	is greater	than maximum (10.	0000)
Results: Total Flow:	213.6780	cfs	Flow From:	Upstream
Status: Pipe Width:	Fixed		Slope:	0.0316 ft/ft
Denth of Flow:	48.0000 2.7985	ft	Pipe Height: Flow Status:	48.0000 in Partial
Critical Depth:	3.8800 22.7546	ft	Capacity:	
Velocity: Froude Number:	22.7546	TT/S	Flow Regime:	SuperCritical
			2	•
Designing manhole SDMH	4			
Results: Total Flow:	213.6780	cfs	Flow From:	Upstream
			1 1000 (1 10111.	ops cream
Status: Chamber Width:	Fixed 8.0000		Chamber Length:	8.0000 ft
Designing pipe SDP18				
WĂRNIŇG: Full flow	velocity	is greater	than maximum (10.	
Results: Total Flow:	213.6780	cfc	Flow From:	Upstream
		CIS		•
Status: Pipe_Width:	Fixed 54.0000	in	Slope: Pipe Height:	
Depth of Flow: Critical_Depth:	4.5000 4.5000	ft	Flow Status: Capacity:	Full _
.Velocity:	13.4352	ft/s		
Froude Number:	0.0000		Flow Regime:	Subcritical
Designing pipe SDP6				
Results:			_	
Total Flow:	48.0219	cfs	Flow From:	Upstream
Status:	Fixed	4	Slope:	0.0067 ft/ft 36.0000 in
Pipe Width: Depth of Flow:	36.0000 2.1799	ft	Flow Status:	Partial
Critical Depth: Velocity:	2.2560 8.7280		Capacity:	54.6969 cfs
Froude Number:	1.0727		Flow Regime:	SuperCritical
Designing manhole SDMH	2 .			
Results:				
Total Flow:	48.0219	cfs	Flow From:	Upstream
Status:	Fixed			4 0000 64
Chamber Width:	4.0000	ττ	Chamber Length:	4.0000 ft
Designing pipe SDP4		•		
Results: Total Flow:	48.0219	a.f.a	' Flow Froms	Upstream
iotal Flow:			Flow From:	
Status: Pipe Width:	Fixed 36.0000	in	Slope: Pipe Height:	0.0050 ft/ft 36.0000 in
Depth of Flow:	2.5093	ft	Flow Status:	Partial 47.1919 cfs
Critical Depth: Velocity:	2.2560 7.6042		Capacity:	
Froude Number:	0.7947		Flow Regime:	Subcritical
Designing manhole SDMH	3			
Results:				
Total Flow:	48.0219	cfs	Flow From:	Upstream
Status:	Fixed	c.	chamban tanash.	4 0000 Et
Chamber Width:	4.0000	11.	Chamber Length:	4.0000 ft
Designing pipe SDP3				
Results: Total Flow:	48.0219	cfs	Flow From:	Upstream
•		CIS		
Status: Pipe Width:	Fixed 36.0000	in	Slope: Pipe Height:	0.0050 ft/ft 36.0000 in
Depth of Flow:	2.5184 2.2560	ft	Flow Status: Capacity:	Partial 47.0551 cfs
Critical Depth: Velocity:	7.5801		- capacity.	77.03JI C13

Froude Number:

0.7880

SD network analysis txt Flow Regime: Subcritical

Decigning nine CDD 0	100			
Designing pipe SDP-9-	-190			
Results: Total Flow:	106.0000	cfs	Flow From:	Injected Storm
Status:	Fixed	<i>3</i> .	Slope:	0.0056 ft/ft
Pipe Width: Depth of Flow:	60.0000 2.6282	ft	Pipe Height: Flow Status:	60.0000 in Partial
Critical Depth:	2.9340	ft	Capacity:	194.9266 cfs
Velocity: Froude Number:	$10.1351 \\ 1.2347$	ft/s		SuperCritical
Troduc Hamocri	112317		Tion Regime!	- Superior Terror
Designing manhole SDN	NH5		,	•
Results: Total Flow:	154.0220	cfs	Flow From:	Upstream
Status: Chamber width:	Fixed 8.0000	f+	Chamber Length:	8 0000 f+
Chamber width.	8.0000	1.	Chamber Length.	0.0000 10
Designing pipe SDP2				
Results: Total Flow:	154.0220	cfs	Flow From:	Upstream
Status: Pipe Width:	Fixed 60.0000	in.	Slope: Pipe Height:	0.0050 ft/ft 60.0000 in
Depth of Flow:	3.4971	ft	Flow Status:	Partial 184.1598 cfs
Critical Depth: Velocity:		ft/s	Capacity:	
Froude Number:	1.0350		Flow Regime:	Critical
Designing inlet IN-9-	-18			
WARNING: Spread i	s greater t	than	maximum spread (2.5000 ft	t) city calculations
WARNING: Pipe Too	large for	vali	all flow, ignoring capad d connection to inlet.	erey carearactons.
Results: Gutter Flow:	7.8800	cfs	Flow From:	Injected Storm
Status:	Fixed			2
Inlet Length: Flow Downstream:	6.5000	ft	Inlet Width: Bypass To:	2.0000 ft 0.0000 cfs
Percent Cap:	7.8800 100.0000	%	Capacity:	
Spread: Depth in Gutter:	7.7375 0.4012		Assigned Bypass:	N/A
Designing pipe SDP-9-	193			
Results: Total Flow:	7,8800	a £ a	Flow From:	Unctroom
iotal Flow;	7.8800	CTS		•
Status: Pipe Width:	Fixed 18.0000	in	Slope: Pipe Height:	0.0215 ft/ft 18.0000 in
Depth of Flow:	0.7598	ft	Flow Status:	Partial
Critical Depth: Velocity:	1.0870 8.7709		Capacity:	15.4160 cfs
Froude Number:	1.9981	10/3	Flow Regime:	SuperCritical
WADNING: Ding Too	largo for	val4	d connection to inlat	
Designing inlet IN-9-	-17		d connection to inlet.	
WARNING: Spread i WARNING: Inlet fo	s greater t	than I	maximum spread (2.5000 ft	t) city calculations
WARNING: Pipe Too	large for	vali	all flow, ignoring capad d connection to inlet.	crey carearactons.
Results:				
Gutter Flow:	10.2700	cfs	Flow From:	Injected Storm
Status: Inlet Length:	Fixed 6.5000	ft	Inlet Width:	2.0000 ft
Flow Downstream: Percent Cap:	10.2700 100.0000	cfs	Bypass To: Capacity:	0.0000 cfs 0.0000 cfs
Spread:	8.5456 0.4431	ft	Assigned Bypass:	0.0000 CIS
` Depth in Gutter:	U.4431	I L	moorgined bypass:	N/A
Designing pipe SDP5 WARNING: Full flo	w velocity	is g	reater than maximum (10.0	0000)
Results:	·			
Total Flow:	10.2700	cfs	Flow From:	Upstream
Status:	Fixed		slope:	0.0519 ft/ft
•			Page	e 7

DRAINAGE STRUCTURE

Pipe Width: Depth of Flow: Critical Depth: Velocity:	18.0000 0.6866 1.2330 13.0208	ft ft	SD network a Pipe Height: Flow Status: Capacity:	18.0000 in Partial 23.9227 cfs
Froude Number:	3.1603	-	Flow Regime:	SuperCritical
Designing manhole SDMH	large for -9-49	valid con	nection to inlet.	
Results: Total Flow:	18.1500	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000		Chamber Length:	6.0000 ft
Designing pipe SDP-9-1	91	•	. · ·	÷
Results:	10 1500		-7	
Total Flow:	18.1500		Flow From:	•
Status: Pipe Width:	Fixed 30.0000	in	Slope: Pipe Height:	30.0000 in
Depth of Flow: Critical Depth:	1.3009 1.4430	†t	Flow Status: Capacity:	Partial 33.9418 cfs
Velocity: Froude Number:	7.0299 1.2191	†t/s	Flow Regime:	SuperCritical
Designing manhole SDMH	-9-48			
Results:		_		
Total Flow:		cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 8.0000	ft	Chamber Length:	8.0000 ft
Designing pipe SDP-9-1	89			
Results: Total Flow:	172.1720	-£-	51-w 5	
		CIS	Flow From:	•
Status: Pipe Width: Depth of Flow: Critical Depth:	Fixed 60.0000 4.4700 3.7610	ft	Slope: Pipe Height: Flow Status: Capacity:	60.0000 in Partial
Velocity: Froude Number:	9.2954 0.6681	ft/s	Flow Regime:	•
Designing pipe SDP-9-1	88			
Results:	472 4720		-3 -	
Total Flow:	172.1720	CTS	Flow From:	•
Status: Pipe Width:	Fixed 60.0000		Slope: Pipe Height:	
Depth of Flow: Critical Depth:	3.8333 3.7610	ft	Flow Status: Capacity:	Partial 184.1607 cfs
Velocity: Froude Number:	10.6586 0.9616	TT/S	flow Regime:	Critical
Designing pipe SDP-9-1	87			
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status:	Fixed		Slope:	0.0050 ft/ft
Pipe Width: Depth of Flow:	60.0000 3.8333	in ft	Pipe Height: Flow Status:	60.0000 in Partial
Critical Depth: Velocity:	3.7610 10.6586	ft	Capacity:	184.1607 cfs
Froude Number:	0.9616	, -	Flow Regime:	Critical
Designing pipe SDP-9-1 WARNING: Full flow	86 velocity	is greate	r than maximum (10.0	0000)
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status:	Fixed		Slope:	0.1070 ft/ft
Pipe Width: Depth of Flow: Critical Depth:	60.0000 1.5244 3.7610	ft	Pipe Height: Flow Status: Capacity:	60.0000 in Partial 852.0983 cfs
Velocity: Froude Number:	33.9808 5.7106	tt/s	Flow Regime:	SuperCritical

SD network analysis.txt Designing pipe SDP-9-185
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 172.1720 cfs Flow From: Upstream 0.1070 ft/ft 60.0000 in Partial 60.0000 in 1.5244 ft 3.7610 ft 33.9808 ft/s Pipe Width: Depth of Flow: Critical Depth: Pipe Height: Flow Status: Capacity: 852.0968 cfs velocity: Froude Number: Flow Regime: SuperCritical Designing manhole SDMH-9-25 Results: Total Flow: 172.1720 cfs Flow From: Upstream Status: Fixed Chamber Width: 6.0000 ft Chamber Length: 6.0000 ft Designing pipe SDP-9-184
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 172.1720 cfs Flow From: Upstream 0.1070 ft/ft 60.0000 in Fixed Slope: Pipe Height: Pipe Width: Depth of Flow: Critical Depth: Velocity: 60.0000 in 1.5244 ft 3.7610 ft Flow Status: 852.0968 cfs Capacity: 33.9808 ft/s Froude Number: 5.7106 Flow Regime: SuperCritical Designing pipe SDP-9-183
WARNING: Full flow velocity is greater than maximum (10.0000) Total Flow: 172.1720 cfs Flow From: Upstream Slope: Pipe Height: 0.1070 ft/ft 60.0000 in Status: Fixed Pipe Width:
Depth of Flow:
Critical Depth:
Velocity: 60.0000 in 1.5244 ft 3.7610 ft 852.0983 cfs Capacity: 33.9808 ft/s Froude Number: 5.7106 Flow Regime: SuperCritical Designing pipe SDP-9-182 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 172.1720 cfs Flow From: Upstream 0.0175 ft/ft 60.0000 in slope: Status: Fixed Pipe Width: Depth of Flow: Critical Depth: Velocity: 60.0000 in Pipe Height: 2,4992 ft 3,7610 ft 17,5435 ft/s Flow Status: Partial 344.5108 cfs Capacity: Froude Number: 2.2077 Flow Regime: SuperCritical Designing pipe SDP-9-181
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 172.1720 cfs Flow From: Upstream 0.0175 ft/ft 60.0000 in Slope: Pipe Height: Fixed Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 60.0000 in 2.4992 ft 3.7610 ft Partial 344.5108 cfs Flow Status: Capacity: 17.5435 ft/s Froude Number: Flow Regime: SuperCritical 2.2077

Designing manhole SDMH-9-24

Results:

Total Flow: 172,1720 cfs

Flow From:

Upstream

Status: Chamber Width:

Fixed 6,0000 ft

Chamber Length:

6.0000 ft

Designing pipe SDP-9-94

WARNING: Full flow velocity is greater than maximum (10.0000)

SD network analysis.txt

			SD HECHOIR E	dialysis.txt
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: Eroude Number:	Fixed 60.0000 2.4992 3.7610 17.5435	f+	Slope: Pipe Height: Flow Status: Capacity:	60.0000 in Partial
Froude Number:	2.2077	, .	Flow Regime:	SuperCritical
Designing pipe SDP-9- WARNING: Full flo	93 w velocity	is greater	than maximum (10.	0000)
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth: Velocity:	Fixed 60.0000 2.4992 3.7610 17.5435	in ft	Slope: Pipe Height: Flow Status: Capacity;	60.0000 in Partial
Froude Number:	2.2077	·	Flow Regime:	SuperCritical
Designing pipe SDP-9- WARNING: Full flo		is greater	than maximum (10.	. (0000)
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth: Velocity:	Fixed 60.0000 2.7487 3.7610 15.5679	in ft ft ft/s	Slope: Pipe Height: Flow Status: Capacity:	60.0000 in Partial 294.1733 cfs
Froude Number:	1.8409		Flow Regime:	SuperCritical
Designing pipe SDP-9-9 WARNING: Full flow		is greater	than maximum (10.	(0000
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status: Pipe Width: Depth of Flow: Critical Depth:	Fixed 60.0000 2.7487 3.7610 15.5679	ft ft	Slope: Pipe Height: Flow Status: Capacity:	
Velocity: Froude Number:	1.8409	TL/S	Flow Regime:	SuperCritical
Designing manhole SDM	1-9-23			
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing pipe SDP-9-9 WARNING: Full flow	90 v velocity	is greater	than maximum (10.	0000)
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream
Status: Pipe width: Depth of Flow: Critical Depth: Velocity:	Fixed 60.0000 2.7487 3.7610 15.5679	ft ft	Slope: Pipe Height: Flow Status: Capacity:	0.0128 ft/ft 60.0000 in Partial 294.1733 cfs
Froude Number:	1.8409		Flow Regime:	SuperCritical
Designing pipe SDP-9-1 WARNING: Full flow	39 v velocity	is greater	than maximum (10.	0000)
Results: Total Flow:	172.1720	cfs	Flow From:	Upstream .
Status: Pipe Width: Depth of Flow: Critical Depth:	Fixed 60.0000 2.7487 3.7610	ft	Slope: Pipe Height: Flow Status: Capacity:	0.0128 ft/ft 60.0000 in Partial 294.1753 cfs
Velocity: Froude Number:	15.5679 1.8409			SuperCritical

Designing pipe SDP-9-	88		SD network analysis.txt
	w velocity	is greater	than maximum (10.0000)
Results: Total Flow:	172.1720	cfs	Flow From: Upstream
Status:	Fixed	4	Slope: 0.0128 ft/ft Pipe Height: 60.0000 in
Pipe Width: Depth of Flow:	60.0000 2.7487 3.7610	ft	Flow Status: Partial
Critical Depth: Velocity:	3.7610 15.5679	ft ft/s	Capacity: 294.1733 cfs
Froude Number:	3.7610 15.5679 1.8409	1 67 3	Flow Regime: SuperCritical
Designing pipe SDP-9- WARNING: Full flo		is greater	than maximum (10.0000)
Results: Total Flow:	172.1720	cfs	Flow From: Upstream
Status:	Fixed		Slope: 0.0525 ft/ft
Pine Width	60 0000	in	Pipe Height: 60.0000 in
Depth of Flow: Critical Depth:	3.7610	ft	Flow Status: Partial Capacity: 596.7490 cfs
Depth of Flow: Critical Depth: Velocity: Froude Number:	26.2841 3.9758	ft/s	Flow Regime: SuperCritical
riodde nuiibei.	3.9730		Flow Regime. SuperClicical
	86 w velocity	is greater	than maximum (10.0000)
Results: Total Flow:	172.1720	cfs	Flow From: Upstream
Status:	Fixed		Slope: 0.0525 ft/ft Pipe Height: 60.0000 in
Pipe Width: Depth of Flow:	60.0000 1.8387	in ft	Pipe Height: 60.0000 in Flow Status: Partial
Pipe Width: Depth of Flow: Critical Depth: Velocity:	3.7610	ft	Capacity: 596.7490 cfs
Froude Number:	3.9758	TT/S	Flow Regime: SuperCritical
Designing manhole SDM	н-9-22		
Results: Total Flow:	172.1720	c.f.c	Flow From: Upstream
		CIS	Flow From: Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length: 6.0000 ft
Designing pipe SDP-9-	85		
WARNING: Full flo	w velocity	is greater	than maximum (10.0000)
Results:		•	
Total Flow:	172.1720	cts	Flow From: Upstream
Status: Pipe Width:	Fixed 60.0000	in	Slope: 0.0525 ft/ft Pipe Height: 60.0000 in
Depth of Flow:	1.8387 3.7610	ft	Flow Status: Partial
Critical Depth: Velocity:	3 7610 26 2841	ft ft/s	Capacity: 596.7490 cfs
Froude Number:	3.9758	, .	Flow Regime: SuperCritical
Designing pipe SDP-9-	84		
	w velocity	is greater	than maximum (10.0000)
Results: Total Flow:	172.1720	cfs	Flow From: Upstream
Status:	Fixed		Slope: 0.0525 ft/ft
Pipe Width: Depth of Flow:	66.0000 1.7683	in ft	Pipe Height: 66.0000 in Flow Status: Partial
Critical Depth:	3.6690	ft	Capacity: 769.4354 cfs
Velocity: Froude Number:	26.0974 4.0603	ft/s	Flow Regime: SuperCritical
		•	
Designing pipe SDP-9-i WARNING: Full flo		is greater	than maximum (10.0000)
Results:	480 4-0-	-	
Total Flow:	172.1720	cts	Flow From: Upstream
Status: Pipe Width:	Fixed 66.0000	in	Slope: 0.0525 ft/ft Pipe Height: 66.0000 in
Depth of Flow:	1.7683	ft	Flow Status: Partial
Critical Depth: Velocity:	3.6690 26.0974		Capacity: 769.4354 cfs
Froude Number:	4.0603	•	Flow Regime: SuperCritical
			Page 11

Flow Regime: SuperCritical Page 11

Designing pipe SDP-9-82 WARNING: Full flow velocity is greater than maximum (10.0000) Total Flow: 217.9200 cfs Flow From: Injected Storm 0.0266 ft/ft 48.0000 in Status: Slope: Pipe Width: Depth of Flow: Critical Depth: 48.0000 in 3.0509 ft 3.8890 ft Pipe Height: Flow Status: Partial Capacity: 234.4332 cfs Velocity: 21.1886 ft/s Froude Number: 2.1489 Flow Regime: SuperCritical Designing manhole SDMH23 Results: Total Flow: 217.9200 cfs Flow From: Upstream Fixed Status: Chamber Width: 6.0000 ft Chamber Length: 6,0000 ft Designing pipe SDP37 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 217.9200 cfs Flow From: Upstream Slope: Pipe Height: 0.0777 ft/ft 48.0000 in Status: Fixed 48.0000 in 2.1033 ft 3.8890 ft Pipe Width: Depth of Flow: Critical Depth: Velocity: Partial 400.4990 cfs Flow Status: Capacity: 32.5419 ft/s 4.4311 Froude Number: Flow Regime: SuperCritical Designing manhole SDMH21 Results: Total Flow: 217.9200 cfs Flow From: Upstream Status: Chamber Width: Fixed 6.0000 ft Chamber Length: 6.0000 ft Designing pipe SDP15
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 217.9200 cfs Flow From: Upstream 0.0093 ft/ft 48.0000 in Full Status: Fixed Slope: Pipe Height: Pipe Width: Depth of Flow: Critical_Depth: 48.0000 in 4.0000 ft 4.0000 ft Flow Status: Capacity: 138.6153 cfs Velocity: 17.3415 ft/s Froude Number: Flow Regime: Subcritical 0.0000Designing pipe SDP-9-81 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 217.9200 cfs Flow From: Upstream 0.0091 ft/ft Fixed slope: Status: Pipe Width: Depth of Flow: Critical Depth: 48.0000 in 4.0000 ft 4.0000 ft 48.0000 in Pipe Height: Flow Status: Capacity: Velocity: Froude Number: 17.3415 ft/s 0.0000 Flow Regime: Subcritical Designing manhole SDMH-9-21 Results: Total Flow: 217.9200 cfs Flow From: Upstream Status: Chamber Width: Fixed 6.0000 ft Chamber Length: 6.0000 ft Designing pipe SDP-9-80 WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow:

217.9200 cfs

DRAINAGE STRUCTURE

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Upstream

Flow From:

Fixed 48.0000 in 2.7573 ft 3.8890 ft 23.5877 ft/s 0.0342 ft/ft 48.0000 in Slope: Pipe Height: Flow Status: Pipe Width: Depth of Flow: 265.6206 cfs Critical Depth: Velocity: Capacity: Froude Number: Flow Regime: SuperCritical Designing manhole SDMH-9-20 Results: 217.9200 cfs Total Flow: Flow From: Upstream 6.0000 ft 6,0000 ft Chamber Width: Chamber Length: Designing pipe SDP-9-79
WARNING: Full flow velocity is greater than maximum (10.0000) Total Flow: 217.9200 cfs Flow From: Upstream Slope: Pipe Height: 0.0284 ft/ft 48.0000 in Fixed Status: Pipe Width: Depth of Flow: Critical Depth: 48.0000 in 2.9676 ft 3.8890 ft Flow Status: Partial 242.0460 cfs Capacity: 21.7982 ft/s 2.2741 Velocity: Froude Number: Flow Regime: SuperCritical Designing pipe SDP-9-78 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Upstream Total Flow: 390.0920 cfs Flow From: 0.0525 ft/ft 66.0000 in Slope: Status: Fixed Pipe Width: Depth of Flow: Critical Depth: 66.0000 in 2.7726 ft 5.1650 ft Pipe Height: Flow Status: Partial 769,4354 cfs Capacity: 32.4968 ft/s Velocity: Froude Number: Flow Regime: SuperCritical 3.8780 Designing pipe SDP-9-77 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 390.0920 cfs Flow From: Upstream 0.0525 ft/ft 66.0000 in Partial Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 66.0000 in 2.7726 ft 5.1650 ft Pipe Height: Flow Status: Capacity: 769.4354 cfs 32.4968 ft/s Froude Number: 3.8780 Flow Regime: SuperCritical Designing manhole SDMH-9-19 Results: Total Flow: 390.0920 cfs Flow From: Upstream Status: Chamber Width: Fixed 6.0000 ft Chamber Length: 6.0000 ft Designing pipe SDP-9-76
WARNING: Full flow velocity is greater than maximum (10.0000) Results: 390.0920 cfs Total Flow: Flow From: Upstream 0.0525 ft/ft 66.0000 in Partial 66.0000 in 2.7726 ft 5.1650 ft 32.4968 ft/s Pipe Width: Depth of Flow: Pipe Height: Flow Status: Critical_Depth: Capacity: 769.4354 cfs Velocity: Froude Number: Flow Regime: SuperCritical Designing pipe SDP-9-75 WARNING: Full flow velocity is greater than maximum (10.0000) Results: 390.0920 cfs Total Flow: Flow From: Upstream Status: Pipe Width: Depth of Flow: Fixed 66.0000 in 2.7726 ft Slope: Pipe Height: Flow Status: 0.0525 ft/ft 66.0000 in Partial Page 13

SD network analysis.txt

Critica	T Depth:	5.1650	ft		SD network a	nalysis.txt 769.4354	cfs
V Froude	elocity: Number:	5.1650 32.4968 3.8780	ft/s		Flow Regime:		
Designing pi WARNING:			is greater	than	maximum (10.	0000)	
Results:							
Tot	al Flow:	390.0920	cfs		Flow From:	•	
D-i-m	Status:	Fixed			Slope:		ft/ft
Denth	e wiath: of Flow:	2.9032	in ft		Pipe Height: Flow Status:		111
Critica	l_Depth:	5.1650	ft		Capacity:		cfs
V	elocity:	30.6631	ft/s		Flow Regime:	compandad d	
Froude	Number:	Fixed 66.0000 2.9032 5.1650 30.6631 3.5517			riow kegime:	Supercriticit	-ai
	0 -				÷		
Designing pr	DC 3DL-3-1			than	maximum (10.	0000)	
	1411 1101	· verberey	is greater	criait	maximum (201		
Results:	al Flow:	390.0920	c.f.c		Flow From:	tinc+noam	
101	ai riow.	390.0920	CIS		FIOW FIOIII.	Upstream	
	Status:	Fixed			slope:	0.0450	ft/ft
Pip	e Width:	66.0000	in fr		Pipe Height: Flow Status:		٦n
Critica	o Flow. 1 Depth:	5.1650	fr		Capacity:		cfs
V	elocity:	66.0000 2.9032 5.1650 30.6631	ft/s		• • •		
Froude	Number:	3.5517			Flow Regime:	SuperCritic	:a1
Designing pi	pe SDP-9-7	' 2		_			
WARNING:	Full flow	velocity	is greater	than	maximum (10.	0000)	
Results:							
	al Flow:	390.0920	cfs		Flow From:	Upstream	
	Status:	Fixed			Slope:	0.0500	ft/ft
Pip	e Width:	66.0000	in		Pipe Height:		
Donth	of Flow:	2 8130	ft		Flow Status:	Partial	
Critica	l Depth:	5.1650 31.9063	ft ft/c		Capacity:	750.8921	cts
Froude	l Depth: elocity: Number:	3.7724	TC/S		Flow Regime:	SuperCritic	:aT
						•	
Designing pi	na SDP-9-7	11					
WARNING:	Full flow	velocity	is greater	than	maximum (10.	0000)	
Results:							
Tot	al Flow:	390.0920	cfs		Flow From:	Upstream	
					-7	-	c
Pin	Status: e Width:	Fixed 66.0000	in		Slope: Pipe Height:	0.0500 66.0000	
Depth	of Flow:	2 8130	f+		Flow Status:	Partial	
	ີງDepth:	5.1650	ft		Capacity:	750.8921	cfs
	elocity: Number:	31.9063 3.7724	TT/S		Flow Regime:	SuperCritic	-a1
. rodac	wamper.	3.7724			1 Toll Regime.	Super er rere	-u i
Designing in	30+ TN 0 1	6					
WARNING:	Spread is	oreater 1	han maximu	n spre	ead (2.5000 f	t)	
WARNING:	Inlet for	ced to car	oture all f	low,	ignoring capa n to inlet.	city calcula	tions
WARNING:	Pipe 100	large for	valla conne	201101	n to inlet.		
Results:			_				
Gutt	er Flow:	9.0200	cts		Flow From:	Injected St	orm
·	Status:	Fixed					
	Length:	2.9500	ft		Inlet Width:	2.0000	
Page 14	nstream:	9.0200 100.0000	0/		Bypass To: Capacity:	0.0000	
TCTC	ent Cap: Spread:	2.6743	ft		capacity.	0.0000	CIS
Depth in	Gutter:	2.6743 0.8230	ft	Ass ⁻	igned Bypass:	N/A	
Designing pi	pe SDP-9-7	0					
WARNING:	Full flow	velocity	is greater	than	maximum (10.	0000)	
Results:							
	al Flow:	9.0200	cfs		Flow From:	Upstream	
	Status:	Fixed			Slope:	0.0524	ft/f+
Pip	e Width:	18.0000	in		Pipe Height:	18.0000	
Depth	of Flow:	0.6365	ft		Flow Status:	Partial	
Critica	l Depth: elocity:	1.1620 12.6309	ft/s		Capacity:	24.0436	cts
	Number:	3.2090	1 (/ 3		Flow Regime:	SuperCritic	:a1
					<u> </u>	•	

·				
WARNING: Pipe Too	large for	valid conn	SD network a ection to inlet.	nalysis.txt
Designing inlet IN-9- WARNING: Inlet fo	15 rced to cap	oture all f	low, ignoring capa ection to inlet.	city calculations.
Results: Gutter Flow:	5.7400	cfs	Flow From:	Injected Storm
Status:	Fixed	.		'n 0000 G
Inlet Length: Flow Downstream: Percent Cap:	2.9500 14.7600 100.0000	cfs %	Inlet Width: Bypass To: Capacity:	2.0000 ft 0.0000 cfs 0.0000 cfs
Spread: Depth in Gutter:	2.2573 0.6947		Assigned Bypass:	N/A
Designing pipe SDP-9- WARNING: Full flo		is greater	than maximum (10.0	0000)
Results:	14 7000	_e_	elas Esami	Unaturan
Total Flow: Status:	14.7600 Fixed	CTS	Flow From: Slope:	Upstream 0.0448 ft/ft
Pipe Width:	24.0000		Pipe Height:	24.0000 in
Depth of Flow: Critical Depth:	0.7623 1.3840	ft	Flow Status: Capacity:	Partial 47.8595 cfs
Velocity: Froude Number:	13.4169 3.1436	ft/s	Flow Regime:	SuperCritical
WARNING: Pipe Too Designing manhole SDM		valid conn	ection to inlet.	
Results: Total Flow:	404.8519	cfs	Flow From:	Upstream
Status: Chamber Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing pipe SDP-9- WARNING: Full flo	68 w velocity	is greater	than maximum (10.6	0000)
Results: Total Flow:	404.8519	cfs	Flow From:	Upstream
Status:	Fixed	_	S]ope:	0.0500 ft/ft
Pipe Width: Depth of Flow:	66.0000 2.8761		Pipe Height: Flow Status:	66.0000 in Partial
Critical Depth: Velocity:	5.2060 32.2001	ft	Capacity:	
Froude Number:	3.7527	10/3	Flow Regime:	SuperCritical
Designing pipe SDP-9- WARNING: Full flo	67 w velocity	is greater	than maximum (10.0	0000)
Results: Total Flow:	404.8519	cfs	Flow From:	Upstream
Status:	Fixed	_	. Slope:	0.0500 ft/ft
Pipe Width: Depth of Flow:	66.0000 2.8761	in ft	Pipe Height: Flow Status:	66.0000 in Partial
Critical Depth: Velocity:	5.2060 32.2001	ft	Capacity:	750.8921 cfs
Froude Number:	3.7527	10,0	Flow Regime:	SuperCritical
Designing pipe SDP-9- WARNING: Full flo	66 w velocity	is greater	than maximum (10.	0000)
Results: Total Flow:	404.8519	cfs	Flow From:	Upstream
Status:	Fixed		Slope:	0.0500 ft/ft
Pipe Width: Depth of Flow:	66.0000 2.8761		Pipe Height: Flow Status:	66.0000 in Partial
Critical Depth:	5.2060 32.2001	ft	Capacity:	750.8921 cfs
Velocity: Froude Number:	32.2001	11/5	Flow Regime:	SuperCritical

Designing pipe SDP-9-65 WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow: 404.8519 cfs Flow From: Upstream

Slope: Pipe Height: 6 Flow Status: 1 Page 15 0.0500 ft/ft 66.0000 in Partial Fixed 66.0000 in 2.8761 ft Status: Pipe Width: Depth of Flow:

SD network analysis.txt Capacity: 750.8921 cfs 5.2060 ft 32.2001 ft/s 3.7527 Critical Depth: Velocity: Froude Number: Flow Regime: SuperCritical Designing manhole SDMH-9-17 Results: Total Flow: 404.8519 cfs Flow From: Upstream Status: Fixed Chamber Width: 6.0000 ft Chamber Length: 6,0000 ft Designing pipe SDP-9-64 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 404.8519 cfs Flow From: Upstream 0.0500 ft/ft 66.0000 in Slope: Pipe Height: Status: Fixed Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number: 2.8761 ft 5.2060 ft Partial 750.8921 cfs Flow Status: Capacity: 32.2001 ft/s Flow Regime: SuperCritical Designing pipe SDP-9-63
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 404.8519 cfs Flow From: Upstream 0.0500 ft/ft 72.0000 in Fixed Slope: Pipe Height: Status: Pipe Width:
Depth of Flow:
Critical Depth:
Velocity: 72.0000 in 2.7401 ft 5.3560 ft Partial 946,9935 cfs Flow Status: Capacity: 32.1814 ft/s 3.9109 Froude Number: Flow Regime: SuperCritical Designing pipe SDP-9-62 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 404.8519 cfs Flow From: Upstream 0.0350 ft/ft Fixed Slope: Status: Pipe Width: Depth of Flow: Critical Depth: 72.0000 in 3.0387 ft 5.3560 ft Pipe Height: 72.0000 in Partial 792.3116 cfs Flow Status: Capacity: Velocity: 28.1735 ft/s Froude Number: Flow Regime: SuperCritical 3.2094 Designing pipe SDP-9-61
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 404.8519 cfs Flow From: Upstream Status 0.0350 ft/ft Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number: 72.0000 in 3.0387 ft 5.3560 ft Pipe Height: 72.0000 in Flow Status: 792.3116 cfs Capacity: 28.1735 ft/s 3.2094 Flow Regime: SuperCritical Designing manhole SDMH-9-16 Results: Total Flow: 404.8519 cfs Flow From: Unstream Status: Chamber Width: Fixed 6.0000 ft 6.0000 ft Chamber Length: Designing pipe SDP-9-60 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 404.8519 cfs Flow From: Upstream Fixed 72.0000 in 3.0387 ft 5.3560 ft 28.1735 ft/s Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: Slope: Pipe Height: Flow Status: 0.0350 ft/ft 72.0000 in Partial

Froude Number:

Capacity:

Flow Regime: SuperCritical Page 16

792.3116 cfs

```
Designing pipe SDP-9-59
WARNING: Full flow velocity is greater than maximum (10.0000)
             Total Flow:
                                  404.8519 cfs
                                                                         Flow From:
                                                                                            Upstream
                                                                                             0.0350 ft/ft
72.0000 in
Partial
                   Status:
       Pipe Width:
Depth of Flow:
Critical Depth:
                                   72.0000 in
3.0387 ft
5.3560 ft
                                                                      Pipe Height:
Flow Status:
                                                                          Capacity:
        Velocity:
Froude Number:
                                   28.1735 ft/s
                                     3.2094
                                                                      Flow Regime: SuperCritical
Designing pipe SDP-9-58 WARNING: Full flow velocity is greater than maximum (10.0000)
   Results:
             Total Flow:
                                  404.8519 cfs
                                                                         Flow From:
                                                                                            Upstream
                                                                               slope:
                                                                                             0.0350 ft/ft
72.0000 in
                   Status:
       Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
                                   72.0000 in
3.0387 ft
5.3560 ft
                                                                      Pipe Height:
Flow Status:
                                                                                            792.3116 cfs
                                                                           Capacity:
                                   28.1735 ft/s
        Froude Number:
                                                                      Flow Regime: SuperCritical
Designing pipe $DP7
WARNING: Full flow velocity is greater than maximum (10.0000)
             Total Flow:
                                  404.8519 cfs
                                                                         Flow From:
                                                                                            Upstream
                                   Fixed
72.0000 in
3.0692 ft
5.3560 ft
                                                                      Slope:
Pipe Height:
Flow Status:
                                                                                             0.0338 ft/ft
72.0000 in
       Pipe Width:
Depth of Flow:
Critical Depth:
                                                                                            779.0999 cfs
                                   27.8193 ft/s
        Velocity:
Froude Number:
                                     3.1488
                                                                      Flow Regime: SuperCritical
Designing pipe SDP-9-38 WARNING: Full flow velocity is greater than maximum (10.0000)
   Results:
                                  404.8519 cfs
             Total Flow:
                                                                         Flow From:
                                                                                            Upstream
                                   Fixed
72.0000 in
3.0387 ft
5.3560 ft
                                                                                             0.0350 ft/ft
72.0000 in
Partial
       Pipe Width:
Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number:
                                                                      Pipe Height:
Flow Status:
                                                                           Capacity:
                                                                                            792.3116 cfs
                                   28.1735 ft/s
3.2094
                                                                      Flow Regime: SuperCritical
Designing pipe SDP-9-37
WARNING: Full flow velocity is greater than maximum (10.0000)
             Total Flow:
                                  404.8519 cfs
                                                                         Flow From:
                                                                                            Upstream
                                   Fixed
72.0000 in
3.0387 ft
5.3560 ft
28.1735 ft/s
                                                                      Slope:
Pipe Height:
Flow Status:
                                                                                             0.0350 ft/ft
72.0000 in
                   Status:
       Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number:
                                                                                              Partial
                                                                                            792.3116 cfs
                                                                           Capacity:
                                     3.2094
                                                                      Flow Regime: SuperCritical
Designing manhole SDMH-9-10
   Results:
             Total Flow:
                                  404.8519 cfs
                                                                         Flow From:
                                                                                            Upstream
        Chamber Width:
                                    6.0000 ft
                                                                 Chamber Length:
                                                                                               6.0000 ft
Designing pipe SDP-9-36 WARNING: Full flow velocity is greater than maximum (10.0000)
  Results:
Total Flow:
                                  404.8519 cfs
                                                                         Flow From:
                                                                                            Upstream
                                                                                               0.0350 ft/ft
                   Status:
                                      Fixed
                                                                               slope:
       Pipe Width:
Depth of Flow:
Critical Depth:
                                                                      Pipe Height:
Flow Status:
                                   72.0000
                                                                                              72.0000 in
                                    3.0387 ft
5.3560 ft
                                                                                             Partial
                                                                                            792.3116 cfs
                                                                          Capacity:
```

SD network analysis.txt

28.1735 ft/s 3.2094 Velocity: Froude Number: Flow Regime: SuperCritical

Designing pipe SDP-9-35
WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow: 404.8519 cfs Flow From: Upstream

Slope: Pipe Height: Flow Status: 0.0350 ft/ft 72.0000 in 72.0000 in 3.0387 ft 5.3560 ft 28.1735 ft/s 3.2094 Pipe Width:
Pepth of Flow:
Critical Depth:
Velocity:
Froude Number: 792.3116 cfs Capacity:

Flow Regime: SuperCritical

Designing pipe SDP-9-34 WARNING: Full flow velocity is greater than maximum (10.0000)

Total Flow: 404.8519 cfs Flow From: Upstream

Slope: Pipe Height: Flow Status: 0.0350 ft/ft 72.0000 in Status: 72.0000 in 3.0387 ft 5.3560 ft 28.1735 ft/s Pipe Width: Depth of Flow: Critical Depth: Velocity: 792.3116 cfs Capacity: Froude Number: 3.2094 Flow Regime: SuperCritical

Designing pipe SDP-9-33 WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow: 404,8519 cfs Flow From: Unstream

0.0350 ft/ft 72.0000 in Status: slope: Pipe Width: Depth of Flow: Critical Depth: Velocity: Pipe Height: 72.0000 in 3.0387 ft 5.3560 ft 28.1735 ft/s Flow Status: 792.3116 cfs Capacity: Froude Number: 3.2094 Flow Regime: SuperCritical

Designing manhole SDMH-9-8

Results: Total Flow: 404.8519 cfs Flow From: Upstream

Status: Chamber Width: 6.0000 ft 6.0000 ft Chamber Length:

Designing pipe SDP-9-29
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow: 404.8519 cfs Flow From: Upstream

0.0350 ft/ft 72.0000 in Fixed Slope: Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 72.0000 in 3.0387 ft 5.3560 ft Pipe Height: Flow Status: Capacity: Partial 792.3116 cfs 28.1735 ft/s Froude Number: 3.2094 Flow Regime: SuperCritical

Designing pipe SDP-9-28 WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow: 404.8519 cfs Flow From: Upstream

0.0350 ft/ft slope: Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number: 72.0000 in 3.0387 ft 5.3560 ft Pipe Height: 72.0000 in Flow Status: Capacity: 28.1735 ft/s 3.2094 Flow Regime: SuperCritical

Designing pipe SDP-9-27 WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow: 404.8519 cfs Flow From: Upstream

> 0.0350 ft/ft 78.0000 in Status: Fixed slope: 78.0000 in Pipe Width: Pipe Height:

Depth of Flow: Critical Depth: Velocity: Froude Number: 2.9100 ft Flow Status: Partial 980.8328 cfs 5.3650 ft 28.1416 ft/s Capacity: Flow Regime: SuperCritical Designing pipe SDP-9-302
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 404.8519 cfs Flow From: Upstream Fixed 78.0000 in 2.9099 ft 5.3650 ft 28.1429 ft/s Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 0.0350 ft/ft 78.0000 in Partial Slope: Pipe Height: Flow Status: Capacity: 980.8678 cfs Froude Number: Flow Regime: SuperCritical Designing inlet IN-9-5
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet. Results: Gutter Flow: 8.3400 cfs Flow From: Injected Storm 2.9500 ft 8.3400 cfs 100.0000 % 2.5968 ft 0.7992 ft Inlet Length: Flow Downstream: Inlet Width: Bypass To: Capacity: 2.0000 ft 0.0000 cfs Percent Cap: 0.0000 cfs Spread: Depth in Gutter: Assigned Bypass: N/A Designing pipe SDP-9-25 Results: Total Flow: 8.3400 cfs Flow From: Upstream 0.0264 ft/ft 18.0000 in Slope: Pipe Height: Flow Status: Capacity: Status: Fixed 18.0000 in 0.7395 ft 1.1180 ft 9.6086 ft/s 2.2270 Pipe Width: Depth of Flow: Critical Depth: Partial 17.0823 cfs Velocity: Flow Regime: SuperCritical Froude Number: Pipe Too large for valid connection to inlet. WARNING: Designing inlet IN-9-4
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet. Results: Gutter Flow: 7.3100 cfs Flow From: Injected Storm Fixed Status: 2.9500 ft 15.6500 cfs 100.0000 % Inlet Length: Inlet Width: Flow Downstream:
Percent Cap:
Spread:
Depth in Gutter: Bypass To: Capacity: 0.0000 cfs 0.0000 cfs 2.4715 ft 0.7606 ft Assigned Bypass: N/A Designing pipe SDP-9-24 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 15.6500 cfs Flow From: Upstream 0.1907 ft/ft 18.0000 in Fixed Slope: Status: Pipe Width: Depth of Flow: Critical Depth: 18.0000 in 0.6040 ft 1.4180 ft Pipe Height: Flow Status: Partial 45.8764 cfs Capacity: Velocity: Froude Number: 23.4946 ft/s 6.1566 Flow Regime: SuperCritical WARNING: Pipe Too large for valid connection to inlet.

Designing inlet IN-9-3
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet. Results: Gutter Flow: 8.3400 cfs Flow From: Injected Storm Fixed Status: 2.9500 ft 8.3400 cfs 2.0000 ft 0.0000 cfs Inlet Length: Inlet Width: Flow Downstream: Bypass To: Page 19

SD network analysis.txt

SD network analysis.txt Capacity: 0.0000 cfs 100.0000 % 2.6343 ft 0.7923 ft Percent Cap: Spread: Depth in Gutter: Assigned Bypass: N/A Designing pipe SDP-9-23 Results: Total Flow: 8.3400 cfs Flow From: Upstream Fixed 18.0000 in 0.7385 ft 1.1180 ft 9.6252 ft/s 2.2327 0.0266 ft/ft 18.0000 in Status: Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number: Pipe Height: Flow Status: Capacity: 17,1240 cfs Flow Regime: SuperCritical WARNING: Pipe Too large for valid connection to inlet.

Designing inlet IN-9-2
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

WARNING: Pipe Too large for valid connection to inlet. Results: Gutter Flow: 7.3100 cfs Flow From: Injected Storm Status: Inlet Length: Inlet Width: 2.0000 ft Flow Downstream: 15.6500 cfs 100.0000 % 2.5244 ft Bypass To: Capacity: 0.0000 cfs 0.0000 cfs Percent Cap: Spread: Depth in Gutter: 0.7510 ft Assigned Bypass: Designing pipe SDP-9-22 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 15.6500 cfs Flow From: Upstream Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 0.3353 ft/ft 18.0000 in Slope: Pipe Height: 18.0000 0.5189 ft 1.4180 ft Flow Status: 60.8266 cfs Capacity: 28.8409 ft/s Froude Number: 8.2466 Flow Regime: SuperCritical WARNING: Pipe Too large for valid connection to inlet. Designing manhole $\ensuremath{\mathsf{SDMH-9-7}}$ Results: Total Flow: 31.3000 cfs flow From: Upstream Status: Fixed Chamber Width: 4.0000 ft 4.0000 ft Chamber Length: Designing pipe SDP-9-18
WARNING: Full flow velocity is greater than maximum (10.0000) 31.3000 cfs Total Flow: Flow From: Upstream Fixed 36.0000 in 1.0631 ft 1.8140 ft 13.9567 ft/s 0.0304 ft/ft 36.0000 in Partial Slope: Pipe Height: Flow Status: Pipe Width: Depth of Flow: Critical Depth: Capacity: 116.2874 cfs Velocity: Froude Number: 2.7836 Flow Regime: SuperCritical Designing manhole SDMH-9-6 Results: Total Flow: 31.3000 cfs Flow From: Upstream Chamber Width: 4.0000 ft Chamber Length: 4.0000 ft

Designing pipe SDP-9-17 WARNING: Full flow velocity is greater than maximum (10.0000)

Flow From:

Pipe Height:

Flow Status:

Slope:

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Upstream

Partial

0.0310 ft/ft

36.0000 in

31.3000 cfs

Fixed

36.0000 in

1.0573 ft

Results: Total Flow:

> Pipe Width: Depth of Flow:

Status:

Critical		1.8140		SD network a Capacity:	
	locity: Number:	14.0610 2.8131		Flow Regime:	SuperCritical
Designing man	hole SDM	н-9-5			•
Results: Tota	l Flow:	31.3000	cfs	Flow From:	Upstream
	Status: Width:	Fixed 6.0000	ft	Chamber Length:	6.0000 ft
Designing pip WARNING:	e SDP-9-: Full flo	16 w velocity	is great	er than maximum (10.	0000)
Results: Tota	l Flow:	31.3000	cfs	Flow From:	Upstream
Pipe Depth o	Status: Width: f Flow: Depth: locity: Number:	Fixed 42.0000 0.7843 1.7300 19.4255 4.6098	ft ft	Slope: Pipe Height: Flow Status: Capacity: Flow Regime:	Partial _
Designing inl WARNING: WARNING: WARNING:	et IN-9-: Spread i: Inlet fo	1 s greater t rced to car	oture all	mum spread (2.5000 f flow, ignoring capa nnection to inlet.	t)
	r Flow:		cfs	Flow From:	Injected Storm
Inlet Flow Down Perce	nt Cap: Spread:	Fixed 13.0000 138.3000 100.0000 29.6114 0.8577	cfs % ft	Inlet Width: Bypass To: Capacity: Assigned Bypass:	0.0000 cfs 0.0000 cfs
Designing pip	e SDP-9-	303			
Results:	_	•			•
Tota	l Flow:	138.3000	cfs	Flow From:	Upstream
Pipe Depth o Critical	Status: Width: f Flow: Depth: locity:	Fixed 42.0000 3.5000 3.5000 14.3746	ft ft	Slope: Pipe Height: Flow Status: Capacity:	42.0000 in Full
Froude	Number:	0.0000	, .	Flow Regime:	Subcritical
Designing pip WARNING:	e SDP-9-	301		nnection to inlet. er than maximum (10.	0000)
Results: Tota] Flow:	543.1519	cfs	Flow From:	Upstream
Pipe Depth o Critical	Depth: locity:	Fixed 78.0000 3.4544 5.9730 30.3100 3.2151	ft ft	Slope: Pipe Height: Flow Status: Capacity: Flow Regime:	0.0350 ft/ft 78.0000 in Partial 980.8328 cfs SuperCritical
Designing pip WARNING:	e SDP-9-1 Full flow	13 w velocity	is great	er than maximum (10.	0000)
Results: Tota	l Flow:	543.1519	cfs .	Flow From:	Upstream
Pipe Depth o Critical	Status: Width: f Flow: Depth: locity:	Fixed 78.0000 3.4544 5.9730 30.3100 3.2151	ft f t	Slope: Pipe Height: Flow Status: Capacity:	0.0350 ft/ft 78.0000 in Partial 980.8328 cfs SuperCritical
Designing man	hole SDM	H-9-4		·.	
Results: Tota	l Flow:	543.1519	cfs	Flow From:	Upstream

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SD network analysis txt

SD network analysis.txt Status: Chamber Width: Fixed 8.0000 ft Chamber Length: Designing pipe SDP-9-0 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 543.1519 cfs Flow From: Upstream 0.0350 ft/ft 78.0000 in Partial 980.8328 cfs Slope: Pipe Height: Flow Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 78.0000 in 3.4544 ft 5.9730 ft 30.3100 ft/s 3.2151 Capacity: Froude Number: Flow Regime: SuperCritical Designing pipe SDP-9-200 WARNING: Full flow velocity is greater than maximum (10.0000) Total Flow: 543.1519 cfs Flow From: Upstream 0.0350 ft/ft Slope: Pipe Height: Flow Status: Status: 78.0000 in 3.4544 ft 5.9730 ft 30.3100 ft/s Pipe Width: Depth of Flow: Critical Depth: Velocity: 78.0000 in 980.8328 cfs Capacity: Froude Number: Flow Regime: SuperCritical Designing pipe SDP-9-201
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 543.1519 cfs Upstream Flow From: 0.0295 ft/ft 78.0000 in Slope: Pipe Height: Status: Fixed Pipe Width:
Pipe Width:
Depth of Flow:
Critical Depth:
Velocity: 78.0000 in 3.6415 ft 5.9730 ft Partial 900.1703 cfs Flow Status: Capacity: 28.3915 ft/s Froude Number: 2.9070 Flow Regime: SuperCritical Designing manhole SDMH-9-0 Results: Total Flow: 543.1519 cfs Flow From: Upstream Status: Chamber Width: 8.0000 ft 8.0000 ft Chamber Length: Designing pipe SDP-9-204
WARNING: Full flow velocity is greater than maximum (10.0000)-Results: Total Flow: 543.1519 cfs Flow From: Upstream 0.0295 ft/ft 78.0000 in Fixed slope: Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 78.0000 in Pipe Height: 3.6415 ft 5.9730 ft Flow Status: Capacity: Partial 900.1703 cfs 28.3915 ft/s Froude Number: Flow Regime: SuperCritical 2.9070 Designing pipe SDP-9-8 Results: Total Flow: 543.1519 cfs Flow From: Upstream 0.0039 ft/ft 78.0000 in Slope: Pipe Height: Flow Status: Fixed Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: 78.0000 in 6.5000 ft 6.5000 ft 16.3683 ft/s Full 327,4110 cfs Capacity: Froude Number: Flow Regime: Subcritical

Designing pipe SDP-9-7 WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow: 543.1519 cfs Flow From: Upstream

0.0039 ft/ft 84.0000 in Slope: Status Fixed Pipe Width: Depth of Flow: 84.0000 Pipe Height: 7,0000 ft Flow Status: Full Page 22

7.0000 ft 14.1135 ft/s 0.0000 Critical_Depth: Capacity: 398.9506 cfs Velocity: Froude Number: Flow Regime: Subcritical Designing pipe SDP-9-6 WARNING: Full flow velocity is greater than maximum (10.0000) Total Flow: 543,1519 cfs Flow From: Upstream Fixed 84.0000 in 7.0000 ft 7.0000 ft 14.1135 ft/s Slope: Pipe Height: Flow Status: 0.0039 ft/ft 84.0000 in Full Pipe Width:
Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number: Capacity: 398.9506 cfs 0.0000 Flow Regime: Subcritical Designing manhole SDMH-9-2 Results: Total Flow: 543.1519 cfs Flow From: Upstream 7.0000 ft Chamber Width: Chamber Length: 7,0000 ft Designing pipe SDP-9-5 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 543.1519 cfs Flow From: Upstream 0.0039 ft/ft slope: Status: Fixed Pipe Width: Depth of Flow: Critical Depth: Velocity: 84.0000 in 7.0000 ft 7.0000 ft 14.1135 ft/s Pipe Height: 84.0000 in Flow Status: 398.9506 cfs Capacity: Froude Number: 0.0000 Flow Regime: Subcritical Designing pipe SDP-9-4
WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 543.1519 cfs Flow From: Upstream 0.0039 ft/ft 84.0000 in Slope: Fixed Status: Pipe Width:
Depth of Flow:
Critical Depth:
Velocity: 84.0000 in Pipe Height: 7.0000 ft 7.0000 ft 14.1135 ft/s Flow Status: Full 398,9506 cfs Capacity: Froude Number: Flow Regime: Subcritical 0.0000 Designing pipe SDP-9-3
WARNING: Full flow velocity is greater than maximum (10,0000) Results: Total Flow: 543.1519 cfs Flow From: Upstream slope: 0.0039 ft/ft Fixed Status: Status.
Pipe Width:
Depth of Flow:
Critical Depth:
Velocity:
Froude Number: 84.0000 in 7.0000 ft 7.0000 ft Pipe Height: 84.0000 in Full 398.9506 cfs Flow Status: Capacity: 14.1135 ft/s 0.0000 Flow Regime: Subcritical Designing pipe SDP-9-2 WARNING: Full flow velocity is greater than maximum (10.0000) Results: Total Flow: 543.1519 cfs Flow From: Upstream 0.0039 ft/ft 84.0000 in Full 398.9506 cfs Status: Fixed Slope: 84.0000 in 7.0000 ft 7.0000 ft 14.1135 ft/s Pipe Width: Depth of Flow: Critical Depth: Pipe Height: Flow Status: Capacity: Velocity: Flow Regime: Subcritical Froude Number: 0.0000

Designing manhole SDMH-9-1

Results:

Total Flow: 543.1519 cfs

Flow From: Upstream

SD network analysis.txt

Status: Fixed Chamber Width: 7.0000 ft

Chamber Length: 7.0000 ft

SD network analysis.txt

Designing pipe SDP-9-1 WARNING: Full flow velocity is greater than maximum (10.0000)

Results: Total Flow: 543.1519 cfs

Flow From:

Fixed 84.0000 in 7.0000 ft 7.0000 ft 14.1135 ft/s 0.0000 Status: Pipe Width: Depth of Flow: Critical Depth: Velocity: Froude Number:

Slope: Pipe Height: Flow Status: Capacity: 0.0039 ft/ft 84.0000 in . Full 398.9506 cfs

Flow Regime: Subcritical

HGL/EGL Computations:

Table A:														
Struct_3	D Rim_Elev.	D	, Q	L	V	d	dc	۷۸2/2g	sf I	On_Soffi	EGLdn	HGLdn	Tot_Loss	EGLup
(ft)	(ft)	(in)	(cfs)	(ft)	(ft/s)	(ft)	(ft)	(ft)	(ft/ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Outfall	(10)		·							_ +			_	
5276.19			-	_	_	_		_	_	_	-			
5279.28 52			•											
SDP-9- 5280.41 52		- 84 -	543.15	155.92	14.11	-	-	3.10	0.0072	5276.19	5279.28	5276.19	1.13	
SDMH-9		. 60	-	-	· -	-		-	-	-	5280.41	5277.32	0.16	
SDP-9-	-2	84	543. 1 5	4.00	14.11	-	· -	3.10	0.0072	5276.78	5280.57	5277.48	0.03	
5280.60 52 Juncti	on		_	-	-	-	-	_	-	_	5280.60	5277.51		
5280.60 52 SDP-9-		- 84	543.15	4.00	14.11	_		3.10	0.0072	5276.79	5280.60	5277.51	0.03	
5280.63 52 Juncti		-			_	_	_		_	_	5280.63	5277.54	0.27	
5280.90 52 SDP-9-	77.81	- 84	543.15	4.00	14.11	_		3.10	0 0072	5276.80				
5280.93 52	77.83	-	343.13	4.00	17.33	-		3.10	0.0072	3270.00				
Juncti 5280.93 52	77.83		-	-	-	-	-	_				5277.83		
SDP-9- 5282.45 52		- 84 -	543.15	210.89	14.11	- ·		3.10	0.0072	5276.82	5280.93	5277.83	1.52	
SDMH-9		- 5 17	-	-	-	-	-	-	-	-	5282.45	5279.36	0.18	
SDP-9- 5282.66 52	-6	84	543.15	4.00	14.11	-	-	3.10	0.0072	5277.63	5282.63	5279.54	0.03	
Juncti	on	-	-		-	-	-	-	-		5282.66	5279.56	0.00	
5282.66 52 SDP-9-	·7	- 84	543.15	4.00	14.11	-	. •••	3.10	0.0072	5277.63	5282.66	5279.5€	0.03	
5282.69 52 Juncti			-		_	-		_	_	_	5282.69	5279.59	0.38	
5283.07 52 SDP-9-		- 78	543.15	4.00	16.37	_	_	4.16	0.0107	5277.14	5283.07	5279.97	0.04	
5283.11 52 Juncti	78.94		_	-	-	-	-	_	_	_	5283.11			
5285.60 52 SDP-9-	81.44	- 78	EWO 1E	325.44	16.37			4.16	0.0102	5277.16				
5289.28 52	85.11	- 70	543.15	323.44	10.37	-	· -	4.10	0.0107	52//.10				
	85.34 5296		-	-		-	-	÷	-	_	5289.28	5285.11	. 0.22	
(Alter 5290.65 52	nate HGL a !86.48	and EGL	Used)											-
SDP-9- 5290.69 52	·201	_ 78 _	543.15	4.00	16.37	· -	-	4.16	0.0107	5286.75	5290.65	5286.48	0.04	
Juncti 5290.69 52	on	_		-	-	-	-	-	-		5290.69	5286.53	0.00	
SDP-9-	200	78	543.15	4.00	16.37	-	-	4.16	0.0107	5286.75	5290.69	5286.53	0.04	
5290.74 52 Juncti	on		-	-	-	-	-	-	-	. - -	5290.74	5286.57	0.00	
5290.74 52 (Alter	186.58 Mate HGL a	- and EGL	Used)								•		•	
5290.79 52 SDP-9-		78	543. 1 5	32.32	16.37	_	_	4.16	0.0107	5286.89	5290.79	5286.62	0.37	
5291.15 52 SDMH-9	86.99	- '	_	_	_			-	_		5291.15			
5291.39 52	87.23 5297		ucod)									5.00.00	0.27	
5291.85 52			•	4.05	46.35				0.010=	5307 CT	F201 65	F207 60		
SDP-9- 5291.89 52	87.73	78 -	543.15	4.00	16.37	-	-	4.16	0.0107	5287.95				
Juncti 5291.89 52		_	-	-	-	-	-	-	-	-	5291.89	5287.73	0.00	
						Par	16 24							

				SD	network	analvsis	tvt		•			
SDP-9-301 5291.90 5287.74	78	543.15	0.75	16.37	-	- -	4.16	0.0107	5287.95	5291.89	5287.73	0.01
Junction		-	-	-	-	-	-	-	-	5291.90	5287.74	3.94
5295.84 5291.68 SDP-9-302 5295.89 5293.57		404.85	7.25	12.20	-	-	2.31	0.0060	5287.97	5295.84	5291.68	0.04
Junction 5295.89 5293.58	_	-	-	-		~	-	-	-	5295.89	5293.57	0.00
SDP-9-27 5295.94 5293.63	78	404.85	8.00	12.20	-	-	2.31	0.0060	5288.23	5295.89	5293.58	0.05
Junction 5296.23 5293.91	-					-	-	_		5295.94	5293.63	0.29
SDP-9-28	72	404.85	148.56	14.32	- '	-	3.19	0.0091	5288.01	5296.23	5293.91	1.42
5297.65 5294.46 Junction	_	-	-	-	-	-		-		5297.65	5294.46	0.00
5297.65 5294.46 SDP-9-29	72	404.85	12.74	14.32	-	-	3.19	0.0091	5293.21	5297.65	5294.46	0.12
5297.77 5294.58 SDMH-9-8	-	-	-	-	-	-	· -	-	-	5297.77	5294.58	0.18
5297.94 5294.75 5302 SDP-9-33	72	404.85	4.00	14.32	-	-	3.19	0.0091	5293.55	5297.94	5294.75	0.04
5297.98 5294.79 Junction		_	-	-	-		-	-	-	5297.98	5294.79	-
5297.98 5294.79 SDP-9-34	72	404.85	4.00	14.32	-	-	3.19	0.0091	5293.58	5297.98	5294.79	0.04
5298.01 5294.83 Junction	-	-	_	-	-	-	_	_	_	5298.01	5294.83	0.11
5298.13 5294.94 SDP-9-35	- 72	404.85	4.00	14.32	_	-	3.19	0.0091	5293.72	5298.13	5294.94	0.04
5298.16 5294.98 Junction		_	_	_	_	_	_	_		5298.16	5294.98	0.00
5298.16 5294.98 SDP-9-36	- 72	404.85	90.05	14.32		-	3.19	0.0091	5293.86	5298.16	5294.98	0.82
5298.99 5295.80 SDMH-9-10		_	_	_	_	_	_	_	_	5298.99	5295.80	0.14
5299.13 5295.94 5306 (Alternate HGL a		Used)										
5299.77 5296.58 SDP-9-37	72	404.85	4.00	14.32	_	-	3.19	0.0091	5296,91	5299.77	5296.58	0.04
5299.81 5296.62 Junction		-	_		-	_			_		5296.62	_
5299.81 5296.62 SDP-9-38	- 72	404.85	4.00	14.32	_	_	3.19	0.0091	5296.94	5299.81		0.04
5299.84 5296.66 Junction		-	_	_	_		_	-	-		5296.66	0.15
5299.99 5296.81 SDP7	 72	404.85	181.51	27.82	-	-				5299.99		_
5303.48 5300.29 Junction	- '-	101103	_	28.17	_	_	12.34	-	-	_	-	
5312.59 5300.26 SDP-9-58	- 72	404.85	7.50	28.17	3.04	5.36	12.34	_	5303 22	5312.59	5300.26	
5312.86 5300.52		404.03	7.50	28.17	-	J. J0	12.34	_	3303.22	3312,33	-	
Junction 5312.86 5300.52 SDP-9-59	-	404 BE	4.00			5.36		_	E202 40	5312.86	5200 52	_
5313.00 5300.66	- 72 -	404.85	4.00	28.17	3.04		12.34	_	, , ,	3312.60	3300.32	_
Junction 5313.00 5300.66	- 73	404.05		28.17	- 2.04	-	12.34	_	-		E200 CC	-
SDP-9-60 5318.06 5305.73	72 -	404.85	147.84	28.17	3.04	5.36	12.34	-		5313.00	1.5	-
SDMH-9-16 5318.06 5305.73 5318			-	-	-	-		-	-	5318.06		-
DDEC.ED 0000110	- 72 -	404.85	4.00	28.17	3.04	5.36	12.34	_	5308.69	5318.06	5305.73	-
Junction 5318.10 5305.76		-	-	28.17	_	-	12.34	-	-		<u></u>	-
302012130503100	- 72 	404.85	4.00	28.17	3.04	5.36	12.34	-	5308.72	5318.10	5305.76	-
Junction 5321.70 5305.60	_	-	-	32.18	-	-	16.09	-	-	-	-	
SDP-9-63 5321.90 5305.80	- 72 -	404.85	4.00	32.18	2.74	5.36	16.09	-	5308.86	5321.70	5305.60	-
Junction 5322.05 5305.94		-	-	32.20	-	-	16.11	-	-	-	-	-
SDP-9-64 5329.95 5313.84	- 66	404.85	161.16	32.20	2.88	5.21	16.11	-	5308.56	5322.05	5305.94	
SDMH-9-17 5329.95 5313.84 5324	. 56	~	-	-	-	-	-	-	-	5329.95	5313.84	-
SDP-9-65 5330.00 5313.89	66	404.85	4.00	32.20	2.88	5.21	16.11	-	5316.46	5329.95	5313.84	-
Junction 5330.00 5313.89	-	-	-	32.20		-	16.11	-	-	-	-	_
SDP-9-66	66	404.85	4.00	32.20	2.88	5.21	16.11	-	5316.51	5330.00	5313.89	.
Junction 5330.20 5314.09	- -	-	-	32.20	-	-	16.11	-	-	-		
SDP-9-67 5330.35 5314.24	66	404.85	3.04	32.20	2.88	5.21	16.11	-	5316.71	5330.20	5314.09	
Junction		-	-	32.20	-	-	16.11	-	-	_		-
5330.35 5314.24 SDP-9-68	66	404.85	218.63	32.20	2.88	5.21	16.11	-	5316.86	5330.35	5314.24	-
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SD network analysis.txt 5341.12 5325.01 SDMH-9-18 5341.12 5325.01 5335.16 SDP-9-71 66 5341.12 5325.01 66 390.09 4.00 31.91 2.81 5.17 15.82 5327.73 5340.86 5325.04 5340.91 5325.09 Junction 5340.91 5325.09 SDP-9-72 5341.11 5325.29 31.91 . -15.82 66 390.09 4.00 31.91 2.81 5.17 15.82 5327.78 5340.91 5325.09 Junction 5340.00 5325.38 30.66 14.61 SDP-9-7 66 390.09 208.67 30.66 2.90 5.17 14.61 5327.98 5340.00 5325.38 5349.38 5334.77 Junction 5349.38 5334.77 SDP-9-74 5349.56 5334.95 30.66 _ 14.61 66 390.09 4.00 30.66 2.90 5.17 14.61 5337.36 5349.38 5334.77 Junction 5351.23 5334.81 SDP-9-75 32.50 16.41 66 390.09 4.01 32.50 2.77 5.17 16.41 5337.54 5351.23 5334.81 5351.44 5335.02 Junction 5351.44 5335.02 SDP-9-76 5351.49 5335.08 _ 32.50 _ _ 16.41 66 390.09 4.01 32.50 2.77 5.17 16.41 5337.75 5351.44 5335.02 SDMH-9-19 5351.49 5335.08 5346.28 SDP-9-77 69 5351.65 5335.23 -_ 5351.49 5335.08 390.09 4.01 32.50 2.77 16.41 5337.91 5351.59 5335.18 66 5.17 Junction 5351.65 5335.23 SDP-9-78 5351.72 5335.31 Junction 32.50 16.41 66 390.09 1.37 32.50 2.77 5.17 16.41 5337.96 5351.65 5335.23 21.80 7.38 5343.89 5336.50 SDP-9-79 48 217.92 3.89 5337.53 5343.89 5336.50 24.83 21,80 2.97 7.38 5344.51 5337.12 _ _ 5344.51 5337,12 217.92 83.96 23.59 2.76 3.89 8.65 5338.25 5345.66 5337.01 5348.32 5339.68 0.23 SDP-9-81 5350.52 5345.85 48 217.92 209.87 17.34 4.67 0.0230 5341.02 5345.69 5341.02 4.83 Junction 0.00 5350.52 5345.85 5350.52 5345.85 SDP15 48 217.92 25.39 17.34 0.0230 5342.90 5350.52 5345.85 0.58 4.67 5351.11 5346.43 SDMH21 5351.61 5346.94 5355.85 SDP37 48 5351.11 5346.43 0.50 48 217.92 56.21 17.34 0.0230 5343.21 5351.61 5346.94 1.29 5352.90 5348.23 SDMH23 5352.90 5348.23 0.41 5353.31 5348.64 5355.91 SDP-9-82 4 217.92 98.39 17.34 0.0230 5347.20 5353.31 5348.64 2.26 48 4.67 5355.58 5350.90 New Branch 5291.90 5287.74 SDP-9-303 42 3.21 0.0189 5286.47 5291.90 5287.74 138.30 35.02 14.37 --0.66 5292.56 5289.35 5293.66 5290.45 5298.55 SDP-9-16 47 5293.73 5293.56 -5292.56 5289.35 1.10 42 0.16 31.30 67.18 3.25 0.0010 5286.75 5293.66 5290.45 0.07 5293.73 5293.56 SDMH-9-5 0.125293.85 5293.69 5299.62 SDP-9-17 5294.83 5294.66 36 31.30 176.08 14.06 3.07 0.0022 5291.30 5293.85 5293.69 5294.05 5294.06 -SDMH-9-6 5294.83 5294.66 5303.61 SDP-9-18 31 5311.35 5308.32 -5294.83 5294.66 36 31.30 449.91 13.96 1.06 1.81 3.03 5296.71 5297.80 5294.77 5311.35 5308.32 SDMH-9-7 5311.35 5308.32 5317.25 SDP-9-24 1 5319.94 5311.36 -18 15.65 20.44 23.49 0.60 1.42 8.58 5309.25 5316.94 5308.36 IN-9-4 5319.94 5311.36 5319.94 5311.36 5317.26 SDP-9-25 18 5315.53 5314.10 -18 8.34 97.43 9.61 0.74 1.12 1.43 5312.36 5313.03 5311.60 TN-9-5 5315.53 5314.10 5315.53 5314.10 5320.36 New Branch 5330.35 5314.24

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5330.35 5314.24

SDMH-9-18

5330.35 5314.24 5335.16

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SDP-9-69	24	14.76	35.87	SD 13.42	network a 0.76	analysis 1.38	.txt 2.80	_	5332.38	5333.94	5331.14	_
5335.31 5332.52 IN-9-15		_	_		_	-	-		_	5335.31	5332.52	_
5335.31 5332.52 5 SDP-9-70	5335.85 18	9.02	40.06	12.63	0.64	1.16	2.48	-	5333.35	5334.97	5332.49	-
5336.91 5334.43 IN-9-16		-	_	_	-	_	-	-		5336.91	5334.43	
5336.91 5334.43 5	5337.80					•						
New Branch 5347.70 5337.12		-	-	-		-		-	-		-	-
SDP-9-83 5345,23 5334.65	- 66 -	172.17	6.64	26.10	1.77	3.67	10.58	-	5338.03	5344.89	5334.30	-
Junction 5345.23 5334.65			-	26.10	-	-	10.58	-		-	- 	-
SDP-9-84 5345.46 5334.87	- 66 -	172.17	4.22	26.10	1.77	3.67	10.58	_	5558.58	5345.23	5334.05	-
Junction 5345.68 5334.94		472 47	03.00	26.28	1 04	- 76	10.74	-	-			_
SDP-9-85 5350.40 5339.67	_ 60 _	172.17	93.09	26.28	1.84	3.76	10.74	-	5338.10	5345.68		-
SDMH-9-22 5350.40 5339.67 5		473.47	- 4 01	20.20		- 20	10.74	_	-		5339.67	-
SDP-9-86 5350.55 5339.82	- 60	172.17	4.01	26.28	1.84	3.76	10.74	-		5350.50	5559.77	-
Junction 5350.55 5339.82		-	-	26.28	-	-	10.74	-			-	-
SDP-9-87 5350.76 5340.03	- 60 -	172.17	4.01		1.84	3.76	10.74	-	5342.98	5350.55	5339.82	-
Junction 5344.70 5340.94	~ ~			15.57	-	-	3.77				-	-
SDP-9-88 5344.76 5340.99	_ 60	172.17	4.00	15.57	2.75	3.76	3.77	-	5343.19	5344.70	5340.94	-
Junction 5344.76 5340.99		_		15.57	. -	-	3.77	~	-	· -	-	- .
SDP-9-89 5348.00 5344.23	- 60	172.17	254.07	15.57	2.75	3.76	3.77	-	5343.24	5344.76	5340.99	-
Junction 5348.00 5344.23	-	-	-	15.57	-	-	3.77	-	-	-	-	_
SDP-9-90 5348.34 5344.58	60 -	172.17	30.27	15.57	2.75	3.76	3.77	-	5346.48	5348.00	5344.23	-
SDMH-9-23 5348.34 5344.58 5	354.77	-	-	-	-	-	-	-		5348.34	5344.58	. =
SDP-9-91 5348.36 5344.59	- 60	172.17	4.00	15.57	2.75	3.76	3.77		5346.83	5348.34	5344.58	-
Junction 5348.36 5344.59		-	-	15.57	-	-	3.77	-	-	-	-	-
SDP-9-92 5348.41 5344.64	_ 60 _	172.17	4.00	15.57	2.75	3.76	3.77	-	5346.84	5348.36	5344.59	
Junction 5349.18 5344.39	-	-	-	17.54	-	-	4.78	-		***	· -	-
SDP-9-93 5349.25 5344.46	_ 60	172.17	4.00	17.54	2.50	3.76	4.78		5346.89	5349.18	5344.39	-
Junction 5349.25 5344.46		-	-	17.54	-	-	4.78			-	-	-
SDP-9-94 5354.29 5349.51	60	172.17	291.58	17.54	2.50	3.76	4.78	-	5346.96	5349.25	5344.46	-
SDMH-9-24 5354.29 5349.51 5	362 25	-	-	-	-	-	-	-	-	5354.29	5349.51	-
SDP-9-181 5354.45 5349.66	60	172.17	4.00	17.54	2.50	3.76	4.78	- .	5352.15	5354.43	5349.65	-
Junction 5354.45 5349.66		-	-	17.54	-	-	4.78	-	-	-	-	-
SDP-9-182 5354.52 5349.73	60	172.17	4.00	17.54	2.50	3.76	4.78	-	5352.16	5354.45	5349.66	- '
Junction 5366.70 5348.76	-	-	-	33.98	-	-	17.94	-	_	-	-	
SDP-9-183	60	172.17	4.02	33.98	1.52	3.76	17.94	_	5352.23	5366.70	5348.76	_
5367.13 5349.19 Junction		-		33.98	-	-	17.94	-	-		***	-
5367.13 5349.19 SDP-9-184	60	172.17	84.65	33.98	1.52	3.76	17.94	-	5352, 66	5367.13	5349.19	
5375.82 5357.88 SDMH-9-25		• -	-	-	-		-	-		5375.82	5357.88	
5375.82 5357.88 5 SDP-9-185	.60	172.17	4.02	33.98	1.52	3.76	17.94	٠ ــ	5361.66	5376.13	5358.19	-
5376.24 5358.30 Junction		<u>-</u> ·	-	33.98	-		17.94	-	-	-	-	
5376.24 5358.30 SDP-9-186	60	172.17	4.02	33.98	1.52	3.76	17.94	-	5361.77	5376.24	5358.30	-
5376.67 5358.72 Junction		-	_	_	_	_	-	-	-			-
5362.80 5361.03 SDP-9-187	- 60	172.17	4.00	10.66	3.83	3.76	1.77	0.0044	5362.20	5362.80	5361.03	<u>.</u> .
5362.82 5361.05 Junction		_	_	***		-	_	_	_		_	-
(Alternate HG	L and EGL	Used)										
5362.80 5361.60 SDP-9-188	60	172.17	8.00	8.77	_	_	1.19	0.0044	5362.22	5362.80	5361.60	0.03
5362.83 5361.64	-				Page	e 27						

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Junction - 5362.83 5361.64 -	-	-	- SD	network -	ana Iysis -	txt -	-	-	5362.83	5361.64	0.00
(Alternate HGL and EGL 5362.84 5361.64	Used)										
SDP-9-189 60 5363.39 5362.20 -	172.17	128.05	8.77	-	-	1.19	0.0044	5362.26	5362.84		0.56
SDMH-9-48 - 5363.50 5362.31 5366.78	-	-	-	-	-	-	-	-	5363.39	5362.20	0.11
SDP2 60 5363.62 5362.66 -	154.02	34.00	7.84	-	-	0.96	0.0035	5362.95	5363.50	5362.31	0.12
SDMH5 5363.72 5362.77 5367.07	-	-	-	_	-		-	-	5363.62	5362.66	0.10
SDP-9-190 60 5363.78 5363.33 -	106.00	36.13	5.40			0.45	0.0017	5363.08	5363.72	5362.77	0.06
New Branch - 5294.83 5291.80 -	-	-	· <u>-</u>	-	-	-	-	-	· -	-	-
SDMH-9-7 - 5294.83 5291.80 5317.25	<u>-</u>	-	-	-	-	-	-	-	5294.83	5291.80	-
SDP-9-22 18 5325.02 5312.10 -	15.65	17.39	28.84	0.52	1.42	12.93	-	5308.75	5320.70	5307.77	- '
IN-9-2 - 5325.02 5312.10 5317.08	-		-	-	-	-	-	-	5325.02	5312.10	-
SDP-9-23 18 5316.77 5315.33 -	8.34	112.57	9.63	0.74	1.12	1.44	-	5313.18	5313.85	5312.41	
IN-9-3 5316.77 5315.33 5320.59	-	-	-	-	-	-	-	-	5316.77	5315.33	-
New Branch - 5363.39 5361.64 -	-	~_	~	-			-	-	-	-	
SDMH-9-48 -	-	-	- ·	-	-	-	-	-	5363.39	5361.64	0.07
5363.46 5362.27 5366.78 SDP-9-191 30	18.15	135.51	3.70	-	-	0.21	0.0020	5360.24	5363.46	5362.27	0.27
5363.73 5363.52 - SDMH-9-49 -	-	. =		-	-	-	_	-	5363.73	5363.52	0.15
5363.88 5363.66 5365.30 SDP5 18	10.27	42.55	5.81	_	_	0.52	0.0096	5360.24	5363.88	5363.66	0.41
5364.28 5363.76 - IN-9-17 -	-	_	-	-	_	_	_	· <u> </u>	5364.28	5363.76	_
5364.28 5363.76 5364.66	•										
New Branch - 5363.62 5362.66 -		-	-	-	-		-	-	-	· •	-
SDMH5 - 5363.79 5362.83 5367.07	_	-	~	-	-		-	-	5363.62	5362.66	0.17
SDP3 36 5365.73 5365.02 -	48.02	375.69	6.79		-	0.72	0.0052	5361.18	5363.79	5362.83	1.95
SDMH3 5365.96 5365.25 5366.82	-	-	-	- '	-	-	-	-	5365.73	5365.02	0.23
SDP4 36 5367.33 5366.61 -	48.02	263.68	6.79	-	-	0.72	0.0052	5363.12	5365.96	5365.25	1.37
SDMH2 - 5367.52 5366.81 5369.05	-	_	-	-		-	-	-	5367.33	5366.61	0.19
SDP6 36 5369.19 5368.47 -	48.02	321.25	6.79	-		0.72	0.0052	5364.52	5367.52	5366.81	1.67
Outfall -	-	-	-	-	-	-	-	-	=	_	-
5335.80 - (Alternate HGL and EGL	Used)	•		-							
5338.61 5335.80 SDP18 54	213.68	422.55	13.44	, -	_	2.81	0.0118	5335.80	5338.61	5335.80	4.99
5343.59 5340.79 - SDMH4 -	- '	-	-			-		_	5343.59	5340.79	2.12
5345.71 5342.91 5343.07 SDP17 48	213.68	218.75	17.00	-	_	4.49	0.0221	5339.17	5345.71	5342.91	4.84
5350.55 5346.06 SDMH6	_	_		_	_	_	_	-	5350.55	5346.06	1.13
5351.68 5347.19 5349.86 SDP16 48	213.68	315,12	23.10	_	.	8.30	0.0221	5345.96	5351.68	5347.19	_
5359.34 5354.85 - SDMH8 -	_	_	_	_	_	_	_	_	5359.34	5354.85	-
5359.34 5354.85 5360.09 SDP35 48	213.68	450.15	20.86	3.04	3.88	6.76	-	5356.19	5361.99		_
5373.44 5366.68 -											
New Branch - 5359.34 5352.58 -	_	-	-	. "			-	-	 	-	-
SDMH1 - 5359.34 5359.34 5371.64 (Alternate HGL and EGL	Used)	-	-	_	-	-	-	_	5359.34	5352.58	-
5372.35 5368.14 SDP40 54		199.20	22.53	· _	_	7.89	0.0177	5368.24	5372.35	5368.14	
5376.14 5371.93 - SDMH10 -	-	_		· <u>-</u>	-	-	-	-	5376.14		
5376.14 5371.93 5376.85 SDP13 48	261.30	450.29	24.57	3.16	3.94	9.38	_		5381.49		_
5397.27 5387.89 - SDMH15 -		-		-	_	-	_	-	5397.27		-
5397.27 5387.89 5392.73	261 20	450-22	ე <u>ნ</u> ⊹ეე		- 3.94	9.89	-		5397.79		-
SDP12 48 5414.53 5404.64 -	Z01.30	450.32	25.23	3.07	3.94	9.69	-	3300.03	3397.79	7301.30	-

														-	
SDMH16		-	_	_ SD	network -	analysis -	.txt	_	_	5414.53	5404.64	-			
5414.53 5404.64 SDP11	. 48	261.30	356.10	24.11	3.22	3.94	9.03		5405.67	5413.92	5404.89	-			
5425.90 5416.87 SDMH17	_	_	_	. –	-			-	_	5425.90	5416.87	-			
5425.90 5416.87 SDP10	48	261.30	273.32	24.00	3.23	3.94	8.95	-	5417.75	5425.94	5416.98	-			
5434.97 5426.01 SDMH18 5439.44 5430.49		-	-		-	-	-	-	-	5434.97	5426.01	4.48	}		
(Alternate 5438,90 5432,20	HGL and EGL	. Used)											ē		
SDP33 5450.32 5443.62	48	260.90	346.12	20.76	-	-	6.70	0.0330	5432.20	5438.90	5432.20	11.42	<u> </u>		
New Branch 5363.73 5363.52	,	-	_	-	-	-	-	-	-	-					
SDMH-9-49 5363.84 5363.63	_	-	-		-	-	-	-	-	5363.73	5363.52	0.12	<u> </u>	•	
SDP-9-193 5364.25 5363.94	18	7.88	72.04	4.46	-		0.31	0.0056	5360.22	5363.84	5363.63	0.41	L	•	
IN-9-18 5364.25 5363.94		-	-	-	-		-	-	-	5364.25	5363.94	-			
New Branch 5372.35 5368.14	-	-	-	-	-	-	-	-	-	-		-			
SDMH10 5372.35 5368.14	-	-	-	-	7	-	-	-	-	5372.35	5368.14	-			
SDP29 5372.24 5371.89	24	0.20	37.98	4.76	0.08	0.15	0.35	-	5370.95	5369.38	5369.03	-			
IN11 5372.24 5371.89	_	-	-	-		-	-	-	-	5372.24	5371.89	-			
SDP39 5373.71 5373.56	18	0.10	48.04	3.06	0.07	0.12	0.15		5373.31	5372.03	5371.88	-			
IN14 5373.71 5373.56	5377.49	-	-	-	-			-		5373.71	5373.56	-			
New Branch 5372.35 5368.14	·	-	-		-	-		-	-	. -	-	·			
SDMH10 5372.35 5368.14	-	-	-	. -	-	-	-	-	-	5372.35	5368.14				
SDP30 5373.62 5373.38	24	0.20	91.86	3.91	0.09	0.15	0.24	-	5370.95	5369.28	5369.04	-			
IN8 5373.62 5373.38		-		-	-	-	-	-	-	5373.62	5373.38	-			
SDP38 5375.19 5375.04	18	0.10	48.04	3.06	0.07	0.12	0.15	-	5374.79	5373.51					
IN3 5375.19 5375.04	5378.97	-	-	-	_	_	-	-	-	5375.19	5375.04	-			
New Branch 5425.90 5416.95		-	-	-	-	-	_	-	-	-	<u>.</u>	- ,			
SDMH18 5425.90 5416.95	-	-	-	-	-	-	-	-	-	5425.90	5416.95	-		•	
SDP9 5429.90 5429.67	36 -	0.40	220.70	3.85	0.13	0.19	0.23	-	5425.88	5423.24	5423.01	-			
SDMH19 5429.90 5429.67	5437.54	-	-	-	-	-	- '	· 	-		5429.67				
SDP8 5432.92 5432.57	_ 24 _	0.20	37.97	4.71	0.08	0.15	0.34			5430.07				·	
IN4 5432.92 5432.57			-		-	-		-	-		5432.57				
SDP1 5434.62 5434.46	_ 18 _	0.10	48.05	3.19	0.07	0.12	0.16	_	5433.99	5432.72					
IN5 5434.62 5434.46	5438.39		_	-	-	-	-	_	-	5434.02	5434.46	-			
New Branch 5425.90 5425.67		-	-	-	-	-	-	-	-	-	-	-			
SDMH19 5425.90 5425.67	· -	-	-	-	-	-	-	-	-	5425.90	5425.67	-			
SDP32 5432.78 5432.59	24	0.20	78.59	3.56	0.10	0.15	0.20	-	5431.64	5429.93					
IN7 5432.78 5432.59	5436.69	_	-	-	-	-	-	-	-		5432.59				
SDP31 5434.62 5434.47	_ 18 _	0.10	47.99	3.19	0.07	0.12	0.16	-	5433.99	5432.72					
IN6 5434.62 5434.47	5438.39	-	-	-	-	-		-		5434.62	5434.47	-			
Table B: LOSSES								ء د ا ہے	OSS_COEF	ет <i>с</i> емте					
Str_ID Cp Cb	н́f к	нБ	Hstr	Н̈с	не	нj	Total				CD	Cd	Cq		
Outfall	-		·_	- ·	_	⊷	-		. .	- ,	.	-	-		
SDP-9-1	1.13	-	-	-	- Bac	a 20	1.13	٠ .			_	- .	-		
					ragi	e 29						•			

					SĐ	network ar	alysis	.txt				-	
- SDMH-9-1 1.000 1.000 SDP-9-2		-	-	0.16	_	-	-	0.16	7.53	0.100	1.000	0.522	1.000
1.000 1.000 SDP-9-2	0.052	0.03	_	-	_	-	-	0.03	-	-		_	
- Junction	-	_	_	_		_		-	-	-	-	_	-
SDP-9-3		0.03	_	_	-	_	_	0.03	_	_	_	_	
- Junction	-	_	0.27	_	_		_	0.27	_	_	-		_
SDP-9-4	-	0.03		_	_	_	_	0.03	-	2	_	_	_
Junction	-	_	0.00	_	_	~		0.00	_		-	_	_
SDP-9-5		1.52	~		_	_	_	1.52		_		_	· .
SDMH-9-2			<u></u>	0.18	_	_	_	0.18	8.73	0.100	1.000	0.571	1.000
1.000 1.000 SDP-9-6	0.057	0.03	_	_	_	_	_	0.03	-	-	_	_	
Junction	-	-	0.00				-	0.00				_	
SDP-9-7	-	0.03	0.00	_		_		0.03 [_	_	_	_	_
	-		0.00	-	-	0.27	Ē	0.38	_	_	-		
Junction	-	-	0.00	. .	_	0.37	-	0.04	-	_	_	_	-
SDP-9-8	-	0.04	-	_	. —				-	. -	-	-	
Junction	-	-	2.49		-	-	-	2.49	-	-	-	-	_
SDP-9-204	_	3.49	0.18	· -	-	<u>-</u> -		3.68 [_	_	-	
SDMH-9-0 1.000 1.000	0.054		-	0.22	-	-	7	0.22	4.98	0.126	1.000	0.426	1.000
SDP-9-201	_	0.04	-	-	-	-	-	0.04	-	- '	-	-	-
Junction 	_	-	0.00	-	-	-	-	0.00	-	-	_	-	-
SDP-9-200	_	0.04	-	-	-	-	-	0.04	-	-	-	-	
Junction	-	-	0.00	-	-	-	-	0.00	-	_	-	-	-
SDP-9-0		0.35	0.02	-	· -	_ =		0.37 [-	-	-	- '	~
SDMH-9-4 1.000 1.000	0.058	-		0.24	-	-	-	0.24	5.61	0.126	1.000	0.458	1.000
SDP-9-13	0.030	0.04	-	-	-	-	-	0.04	-	-	-	-	-
Junction	-	-	0.00		=			0.00	-	-			-
SDP-9-301	-	0.01	-	-	-	-	-	0.01	-	-	-	-	-
Junction	-	-	0.00	-	-	-	3.94	3.94	-	_	-	-	-
SDP-9-302	-	0.04		-	- ,	-	-	0.04	·_	-	.=		-
Junction	-	-	0.00	_	-	-	-	0.00 1	-	-	-	-	_
SDP-9-27		0.05	-	_	_	-	-	0.05	-	-		_	-
Junction	-	_	0.00	· -	-	0.29	_	0.29	-	-		-	-
SDP-9-28	-	1.36	0.06	<u>.</u>		-	-	1.42	-	_	-	· _	
- Junction	-	_	0.00	-	_	~	_	0.00]	_	_		_	_
SDP-9-29	-	0.12	±	-	<u>.</u>		_	0.12	-	_	_	_	-
SDMH-9-8	-		-	0.18	_	_	-	0.18	7.03	0.100	1.000	0.550	1.000
1.000 1.000 SDP-9-33	0.055	0.04	_	· _		_		0.04]		_	_	_	-
Junction	-	-	_	_	_	- .	_	- j	_	_	_	-	-
SDP-9-34	-	0.04	_	_	_		_	0.04	_		-	-	_
Junction	-	-	0.11			_	_	0.11	_	_	_	_	
SDP-9-35	-	0.04	-	_	_	~	-	0.04	_	_	_	_	_
- Junction	_	-	0.00		_	_	_	0.00	-	_	_	- -	-
SDP-9-36	-	0.82	- -	-	_	_	_	0.82	_	_	_	-	· _
SDMH-9-10	-	-	_	0.14	_	<u>-</u>		0.32	4.90	0.100	1.000	0.443	1.000
1.000 1.000	0.044			0.14		-	. =			0.100	1.000	0.773	1.000
SDP-9-37	-	0.04	-	_	-	-	-	0.04	-	-	-	-	
Junction					_	_		-	_	_	_	-	_

SDP-9-38	0.04		_	_ SD	network	analys	sis.txt 0.04	, -	_	_	_	-
Junction		0.15	_	_	_	_	0.15		_	_	-	
SDP7	1.66	_	_	-	-	_	1.66	' <u>-</u>	_	_	_	_
Junction		_	-	-	_	_	_		_	_	_	_
SDP-9-58		_	_	_	_	_	SuperCrt	' <u>-</u>		- .	· <u>-</u>	_
Junction	-	_	_	_	-	_	- I	-	<u>.</u>		_	
SDP-9-59	-		_	_	_	_	SuporCrt	·	_		_	_
Junction	_			_	_	_	SuperCrt _	· · ·				_
SDP-9-60	- .	_	_	-		_	SuperCrt			_	_	_
SDMH-9-16	-	_	_	_	_	_	Superci c	_			_	_
SDP-9-61	_		_	_		_	SuperCrt	_ _	_		_	_
Junction			·	_	_	_	_ supercrc		_	_	_	_
SDP-9-62	-	-	_	-	-	-	Funancut (_	_	_		
	- · -	_	-	· -	-	_	SuperCrt	- -	-	-	_	_
Junction		-	-	_	-	-	-		-	-	-	-
SDP-9-63	-	-	_	-	-	-	SuperCrt		-	-	-	_
Junction -	- .	-	-		-	-	-	-	-	-	_	-
SDP-9-64	-	-	-	-		-	SuperCrt	-	-	-	-	-
SDMH-9-17 -	_	-	-	-		-		. .	-	-		-
SDP-9-65	-	- ,	-	-	-	-	SuperCrt	-	-	-	-	-
Junction _	_	-	-	-	-	-	- !	-	-	_	, -	-
SDP-9-66 -	_	-	-	-	-	-	SuperCrt	- ·	-	-	-	-
Junction -	<u>.</u>	-	-	-	-	-	- '	_	-	-	-	
SDP-9-67	_	-		-	-	-	SuperCrt	-	-	-	-	-
Junction	- -	~	- '	-	-	-		-		-	-	-
SDP-9-68	- .			-	-	-	SuperCrt	-	-	-	-	-
SDMH-9-18	<u> </u>	=	-	=	-	←	- 1	· -	-	-	-	_
SDP-9-71	_	-	-	-	-	-	SuperCrt	-	-	-	-	-
Junction	_	-	-	-	_ =	-	-	<u>-</u> '	-	-	=	-
SDP-9-72		-	-	-		-	SuperCrt	-	-	-	-	-
Junction	-	-	-	-	-	-	- 1	-	-	-	-	-
SDP-9-73		- .	-	-	-	-	SuperCrt	_	-	· -	-	-
Junction		- ,	-	-	-	-	- 1	-	-	-	-	-
SDP-9-74	-	-		-	-	-	SuperCrt	-		-	-	-
Junction	_	-	-		-	-	- 1	-		-	-	-
SDP-9-75	-	-		-	~	-	SuperCrt	-	-		-	-
Junction	-	-	-	-		-	-	-	-	-	-	_
SDP-9-76	_	-	-	-	-	-	SuperCrt	-	-	-		-
SDMH-9-19	-	-	_	-	_	-	- 1	-	-	-	-	-
SDP-9-77	-	-	- '	_	-	-	SuperCrt	_	-	-	-	-
Junction		-	-	-	-	-		-	-	-		-
SDP-9-78			-			· -	SuperCrt	-	-		-	-
Junction		-	_	-	-	-		-	_	-	-	_
 SDP-9-79		_	_	-		-	SuperCrt		- '	-		_
SDMH-9-20	-		_	-	_	_	User		-	_	_	-
SDP-9-80	-		_	_	_	-	SuperCrt		_	_		<u></u>
SDMH-9-21	-	_	-		_	_	User		_			_
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SDP-9-81	-	4.83	-	_	-	-	-	4.83	-	-	· –	-	-
Junction	-	-	0.00		-	-		0.00	· -	-	-		·
SDP15	-	0.58	-	-	-		-	0.58	-	+	-	-	-
SDMH21 1.000 1.000	0.108	- '	-	0.50	·			0.50	7.32	0.150	1.000	0.719	1.000
1.000 1.000 SDP37	0.100	1.29	-	-	-	-	-	1.29	-	-	-	-	-
SDMH23 1.000 1.000	0.087	-	-	0.41		-	-	0.41	5.13	0.150	1.000	0.581	1.000
SDP-9-82	-	2.26	-	-	-	-	-	2.26	-	-	-	-	-
New Branch		_				_	_	- 1			·		_
SDP-9-303	-	0.66	_	-		-	-	0.66	_	_	_	_	-
IN-9-1	-	_	-	_	_		_	User	6.18	_	_	nga.	_
SDP-9-16	-	0.07	_	_	_	_	_	0.07	-	_	_	_	_
	-		-	0.12	_	_	_	0.12	5.36	1.143	1.000	0.646	1.000
SDMH-9-5 1.000 1.000 SDP-9-17	0.738		0.01	-	_	_	_	0.39	-	-	-	- .	_
 SDMH-9-6	-	_	_	_	. <u>-</u>			-		_	_	_	_
SDP-9-18		_	-	-	- -	- ,	_	SuperCrt	_	_	_	~	_
SDMH-9-7	-	_	-	-	<u>-</u>	_	٠	- 1		-	_	_	_
SDP-9-24	-	_	_	_	_	-	-	SuperCrt	_	_	_	-	-
IN-9-4	-	-		-	***	_	_	- 1	-	-	-	-	_
SDP-9-25	-			-	-	-	-	SuperCrt	-	-	_	-	_
IN-9-5	-		-	_	-	-	-	· -	0.74	-	-	-	-
	-												
New Branch	_	_		-	-	-	-	- 1	-	-	-	_	-
SDMH-9-18	-	-	-	-	-	-	-	- 1	-	-	-		-
SDP-9-69 IN-9-15	-	-		-	-	-	-	SuperCrt		~	-	_	_
SDP-9-70	-	_	_	_	-	_	-	SuperCrt		_		_	
IN-9-16	-	-			- -	-	_	_ I		_	_	_	_
	-		_	_	_		_	- 1					
New Branch		-	_	-	-		_	· -	-		-	-	-
SDP-9-83	_	-	-	-	-	-	-	SuperCrt	-	-		-	-
Junction	_	-	-	-	-	-	-	- 1	-	_	-		=
SDP-9-84	_	-	-	-	-	-	-	SuperCrt	-		-	_	-
Junction -	_	-	-		-	-	-	1	-	· <u>-</u>	-	-	-
SDP-9-85	_		- '	-		-	-	SuperCrt	-		-	-	-
SDMH-9-22 	_		-	-	-	-	-	- 1	-	-	-	-	-
SDP-9-86	_	-	-	-	=	-	-	SuperCrt	-	-	-	-	-
Junction 	-	-	- .			-	-	- 1	-	-	-	-	
SDP-9-87	_	-	-	-	-		-	SuperCrt	· <u>-</u>	-	-	-	-
Junction	-	-	-	_	-		~	- 4	-		-	-	-
SDP-9-88		-	-	. -	-	-	-	SuperCrt	-		-	-	-
Junction	_	-	-	-	-	-	-	- 4	-	-	-		-
SDP-9-89 	-	-,	-	-	-	-	-	SuperCrt	-	-	-	-	-

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SuperCrt |

SuperCrt |

Junction SDP-9-90

SDMH-9-23 SDP-9-91

					SD r	network	analvs	is.txt					
- Junction	-	_	_	_	-	_		-	_	-	_	_	_
SDP-9-92	-	-	=	<u>.</u>		-	_	SuperCrt	<u>.</u>	=	_	_	-
Junction		_		_	_	_		-	- 	_		· _	_
SDP-9-93	-	-	-,	_	_	_		SuperCrt	· 	-		-	_
Junction	-		_	_	_	_			· ,	_	_	_	-
SDP-9-94	-	_	_		_	_	_	SuperCrt	· -	-	_	_	_
SDMH-9-24	-	_	-	-	-	_				_	_	_	
SDP-9-181	-	_	· -		_	_	_	.SuperCrt	- -	_		-	
 Junction			_	_	_	-			· 	· <u>-</u>		-	
SDP-9-182	-		·	-	_	_	_	SuperCrt	· • • <u>-</u>	_	_	_	-
Junction	-	_	_	_	_	_	_	- 1	_	-	-	_	_
 SDP-9-183	-	_		-	-	-		SuperCrt	_	_	-	_	-
- Junction		·	-	_	<u>-</u>	_	_		-	_	_	,	_
 SDP-9-184	-	_	_	_	_	_		SuperCrt		_	_	_	_
 SDMH-9-25	-	-		-		-	-		<u>-</u>	-	_		_
SDP-9-185	-	-		-	-			SuperCrt	_	_		_	-
- Junction	-	_	_	_	_	_	_	- 1	- -		-	-	_
 SDP-9-186	~	_	-		-		-	SuperCrt		. -	-	· .	· _
- Junction	-	-		· <u>-</u> .	-		_	-	-	_	_	_	
- SDP-9-187	-	0.02	_	_	_	_	_	0.02	· . -	. <u>-</u>	_	-	_
 Junction		_	_	_	<u>-</u>	_	-	- 1	-	=			_
- SDP-9-188	-	0.03	-	-	_		-	0.03	_	_		_	_
Junction	-	-	0.00	***	· 		_	0.00	-	_	_	_	-
SDP-9-189	-	0.56	_	_	_	_	_	0.56		-		_	_
 SDMH-9-48	***	· _		0.11				0.11		0.160	1.000	0.467	1.185
1.000 1.000 SDP2	0.08	0.12	-	-	_	_	_	0.12		_	_		-
SDMH5	-	_	_	0.10	_	_	_	0.10	•	0.160	1.000	0.475	1.417
1.000 1.000 SDP-9-190	0.10	0.06		_		_	_	0.06		_		_	_
·	-			•									
New Branch	_	-	- '	_	_	-	-	-	-	-	-	-	-
SDMH-9-7	_	-	-	-	7	-	-	- [-	-	-	-	-
SDP-9-22	-		-	-		-	-	SuperCrt	-	-	-	-	-
IN-9-2	_	-	-	-		-	-	***	ww	-	-	-	-
SDP-9-23	-	-	_	_	_	-	-	SuperCrt		-	-	-	-
IN-9-3	_	-	-	-	-	-	-	- 1	0.74	-	-	-	-
New Branch		_	_	-	_	-	_	- 1	-	-	_	-	-
SDMH-9-48	-	_	-	0.07			٠ ـ	0.07	4.46	1.502	1.000	0.467	0.080
1.000 1.000 SDP-9-191	0.09	66 0.27	_		-	_	_	0.27	-	-	_		↔
- SDMH-9-49		-	-	0.15	-	_		0.15		0.960	1.000	0.748	0.967
1.000 1.000 SDP5	0.69	0.41		_	-	·	-	0.41		-	-	-	-
IN-9-17	-	-	-		_	_	_	- 1		-	-	-	-
	-												
New Branch	_		-	-	-	_	-	-	-	-	-	÷	-
SDMH5 1.000 1.000	0.17	74	-	0.17	_	-		0.17		1.502	1.000	0.475	0.244
SDP3	-	1.95	_		-	-	-	1.95			-	-	
SDMH3		-	-	0.23	-	- Pag	je 33	0.23	5.00	0.474	1.000	0.679	1.000

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1.000 1.000 SDP4	0.322 1.3	37 -		_			1.37	-	_	_	_	_
SDMH2	-	_	0.19	_	_	_	0.19		0.383	1.000	0.695	1.000
1.000 1.000 SDP6	0.266 1.6	67 -	_	_	-		1.67		-			-
Outfall 	-	-	-	-	-		-	-		~		- .
SDP18	- 4.9	99 -	-	-	-	-	4.99	-	-	-	-	-
SDMH4 1.000 1.000	0.755		2.12		-		2.12	5.72	1.308	1.000	0.577	1.000
SDP17	4.8	34 -		-	-	-	4.84	-	-	-	-	_
SDMH6 1.000 1.000	0.251	_	1.13	7	-	-	1.13	4.20	0.487	1.000	0.515	1.000
SDP16	6.9	- 7	-	-	-	-	6.97	-			-	
SDMH8		-	-		-	-	-	-	-	-	-	
SDP35	_	-	-	~		-	SuperCrt	-	_	-	<u>-</u> .	-
New Branch		_						1 _				
SDMH1			_				User	 I -	_	_	_	_
- SDP40	. 3.5		_	_	_	_	3,53		_	_	_	_
SDMH10			-	-		-	3,33	1 -	-	-		-
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SDP13	'		·	-	-	_	SuperCrt	-		-	-	
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SDP11	-	-		-	-	-	SuperCrt	-	-	-	-	-
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IN14 	_	-	-	-	-	-	-	0.07			-	-
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