Storm Sewer Summary Report

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Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	1 TO 2	18.52	36	Cir	62.000	37.88	38.19	0.500	39.19	39.57	0.08	39.65	End	Manhole
2	2 TO 3	15.38	24	Cir	36.000	38.29	38.47	0.500	39.87	40.04	0.52	40.57	1	Manhole
3	3 TO 4	15.47	24	Cir	68.000	38.57	38.91	0.500	40.57	40.86	0.15	41.01	2	Manhole
4	4 TO 5	10.22	24	Cir	123.000	39.01	39.63	0.504	41.01	41.20	0.19	41.39	3	Manhole
5	5 TO 6	10.37	24	Cir	119.000	39.73	40.33	0.504	41.39	41.58	0.16	41.74	4	Manhole
6	6 TO 7	9.76	24	Cir	108.000	40.43	40.97	0.500	41.74	42.09	0.14	42.23	5	Manhole
7		8.49	18	Cir	97.100	41.57	42.06	0.505	43.07*	43.71*	0.12	43.82	6	Manhole
8		8.53	18	Cir	53.550	42.16	42.43	0.504	43.82*	44.18*	0.05	44.23	7	Manhole
9		7.42	18	Cir	73.320	42.53	42.90	0.505	44.23*	44.60*	0.23	44.83	8	Manhole
10		6.37	18	Cir	151.450	43.00	43.76	0.502	44.83*	45.39*	0.10	45.49	9	DropGrate
11		4.87	15	Cir	33.970	44.01	44.18	0.500	45.49*	45.68*	0.12	45.80	10	DropGrate
12		3.40	15	Cir	27.380	44.28	44.42	0.511	45.80*	45.88*	0.06	45.94	11	DropGrate
13		2.93	15	Cir	48.200	44.52	44.76	0.498	45.94	46.01	0.01	46.02	12	Manhole
14		2.96	15	Cir	58.700	49.58	50.17	1.005	50.17	50.86	0.14	50.86	13	DropGrate
15		2.98	15	Cir	51.530	50.27	50.79	1.009	50.87	51.48	0.28	51.48	14	Manhole
16		1.19	15	Cir	24.720	53.00	53.49	1.982	53.31	53.92	0.16	53.92	15	DropGrate
17		0.42	15	Cir	30.480	51.00	51.61	2.001	51.46	51.86	n/a	51.86 j	15	DropGrate
18		1.42	15	Cir	40.030	47.00	47.80	1.998	47.33	48.27	n/a	48.27	9	DropGrate

Project File: MAIN RUN BACKUP-2.stm | Number of lines: 18 | Run Date: 5/30/2014

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewers v10.30

Storm Sewer Tabulation

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Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	28.000	0.14	0.47	0.79	0.11	0.34	7.0	7.5	6.6	2.25	4.57	3.74	15	0.50	52.00	52.14	52.60	52.77	53.30	56.90	37 to 38
2	1	36.000	0.33	0.33	0.70	0.23	0.23	7.0	7.0	6.7	1.55	4.57	2.08	15	0.50	52.14	52.32	52.96	52.98	56.90	56.90	38 to 39

Storm Sewer Tabulation

Page 1

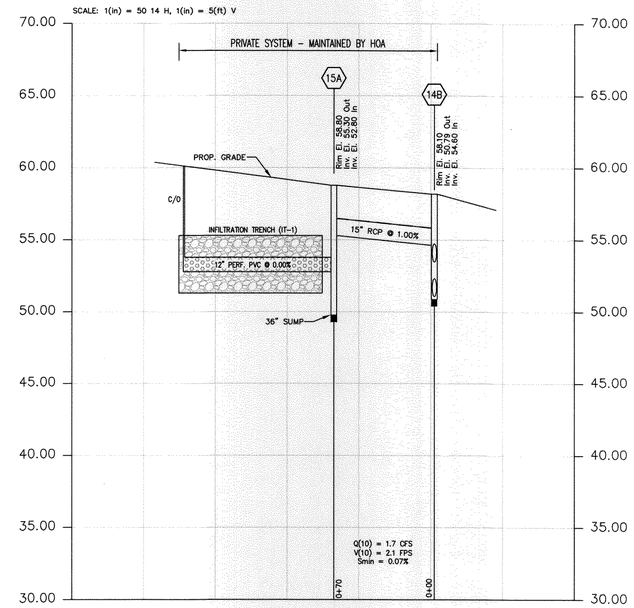
Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	21.000	0.00	0.39	0.00	0.00	0.28	0.0	8.0	6.5	1.84	4.67	3.58	15	0.52	52.00	52.11	52.54	52.66	53.30	57.20	40 to 41
2	1	40.000	0.14	0.39	0.71	0.10	0.28	7.0	7.6	6.6	1.87	6.46	2.27	15	1.00	52.11	52.51	52.83	52.97	57.20	57.40	41 TO 42
3	2	36.000	0.25	0.25	0.74	0.19	0.19	7.0	7.0	6.7	1.24	0.00	0.00	15	1.00	52.51	52.87	0.00	0.00	57.40	57.40	42 TO 43

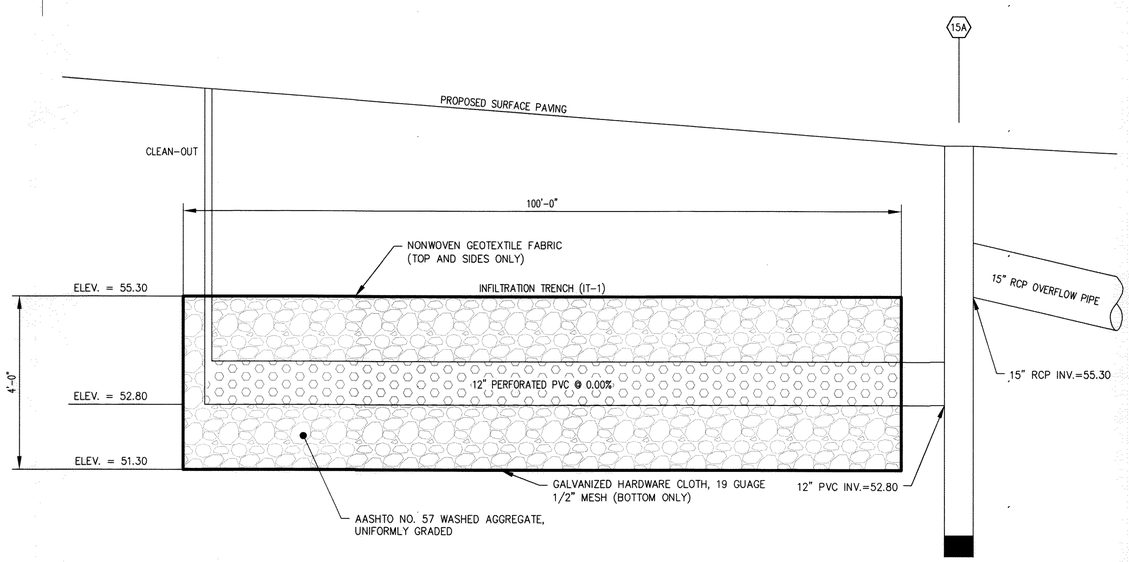
MAINTAINED BY	PIPE SCHEDULE		
	SIZE	TYPE	LENGTH
CITY OF ANNAPOLIS	15"	RCP CL. IV	177'
PRIVATE	15"	RCP CL. IV	264'
	18"	RCP CL. IV	484'
	24"	RCP CL. IV	454
	36"	RCP CL. IV	62'

ALL PIPE TO BE BELL & SPIGOT CONNECTION

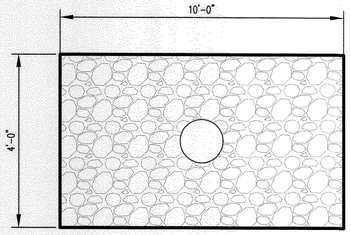
ALL PIPE SHALL HAVE RUBBER GASKETS AT CONNECTIONS

MAINTAINED BY	STRUCTURE SCHEDULE				
	NO.	TYPE	DIMENSIONS	ELEVATIONS	STANDARD DETAIL
PRIVATE	1	36" CONC. END SECTION	36" DIA.	INV.=37.88	MD SHA 368.02
	2	60" DIA. PRECAST MANHOLE, TYPE A	60" DIA.	MH TOP=54.00	CITY OF ANNPOLIS G 6.0
	3	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=53.50	CITY OF ANNPOLIS G 6.0
	4	60" DIA. PRECAST MANHOLE, TYPE A	60" DIA.	MH TOP=52.80	CITY OF ANNPOLIS G 6.0
	5	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=51.50	CITY OF ANNPOLIS G 6.0
	6	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=51.30	CITY OF ANNPOLIS G 6.0
	7	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=51.00	CITY OF ANNPOLIS G 6.0
	9	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=52.30	CITY OF ANNPOLIS G 6.0
	10	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=53.30	CITY OF ANNPOLIS G 6.0
	11	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=52.00	CITY OF ANNPOLIS G 6.0
	13	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=58.00	CITY OF ANNPOLIS G 6.0
	14A	CAST-IN-PLACE TRENCH DRAIN W/ HEAVY DUTY GRATE		TOP=57.10 (MATCH PAVEMENT GRADE)	N/A
	14B	48" DIA. PRECAST MANHOLE, TYPE A	60" DIA.	MH TOP=58.20	CITY OF ANNPOLIS G 6.0
	15	TYPE E INLET DOUBLE	2'-8 5/8" X 5'-6"	GRATE TOP=57.25	CITY OF ANNPOLIS G 24.0
	15A	TYPE E INLET DOUBLE	2'-8 5/8" X 5'-6"	GRATE TOP=58.80	CITY OF ANNPOLIS G 24.0
	33	PRECAST YARD INLET	2'-0" X 2'-0"	GRATE TOP=54.50	MD SHA 381.02
	34	CAST-IN-PLACE TRENCH DRAIN W/ HEAVY DUTY GRATE		TOP (LOW SIDE)=55.77 TOP (HIGH SIDE)=55.83	N/A
	35	PRECAST YARD INLET	2'-0" X 2'-0"	GRATE TOP=53.00	MD SHA 381.02
	36	PRECAST YARD INLET	2'-0" X 2'-0"	GRATE TOP=53.00	MD SHA 381.02
	36A	PRECAST YARD INLET	2'-0" X 2'-0"	GRATE TOP=52.50	MD SHA 381.02
	37	15" CONC. END SECTION	15" DIA.	INV.=52.00	MD SHA 368.02
	40	15" CONC. END SECTION	15" DIA.	INV.=52.00	MD SHA 368.02
CITY OF ANNAPOLIS	13	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=58.00	CITY OF ANNPOLIS G 6.0
	14	TYPE SINGLE WR INLET	2'-8 5/8" X 2'-7 1/4"	GRATE TOP=57.10	CITY OF ANNPOLIS G 23.0
	38	TYPE B-1 INLET (10'-0")	2'-6" X 10'-0"	TOP RT. FC=56.94 TOP LT. FC=56.94	CITY OF ANNPOLIS D 20.0
	39	TYPE B-1 INLET (10'-0")	2'-6" X 10'-0"	TOP RT. FC=56.94 TOP LT. FC=56.94	CITY OF ANNPOLIS D 20.0
	41	48" DIA. PRECAST MANHOLE, TYPE A	48" DIA.	MH TOP=57.18	CITY OF ANNPOLIS G 6.0
	42	TYPE A-1 INLET (5'-0")	2'-6" X 5'-0"	TOP RT. FC=57.46 TOP LT. FC=57.40	CITY OF ANNPOLIS D 19.0
	43	TYPE A-1 INLET (5'-0")	2'-6" X 5'-0"	TOP RT. FC=57.40 TOP LT. FC=57.46	CITY OF ANNPOLIS D 19.0
	44	PRECAST C.O.S./C.O.G OPENING	5' OPENING X 5'-10" WIDTH	FC=57.12 @ CENTER OF OPENING (MATCH CURB GRADE & ELEVATION)	MARYLAND SHA 374.68





PROFILE



CROSS-SECTION

INFILTRATION TRENCH DETAIL

N.T.S.

THESE PLANS ARE BASED UPON PLANS TITLED 'ARIS ALLEN BOULEVARD, LLC MIXED RESIDENTIAL' CREATED BY BOWMAN CONSULTING, PORTIONS OF WHICH ARE USED HEREIN.

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NO.	DATE	REVISION	BY

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PROJECT

ARIS T. ALLEN BOULEVARD
RESIDENTIAL PLANNED DEVELOPMENT
PART 1 - LOTS 26 - 31, 47 & 48

6TH ELECTION DISTRICT
CITY OF ANNAPOLIS, MARYLAND

TAX MAP/GRID: 51E/8

STATE OF MARYLAND
PIERO VAN MELLITS
No. 21875
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

License No.: 21875 Expiration Date: 2/12/16

SHEET TITLE

STORM DRAIN COMPUTATIONS & SCHEDULES

GRADING PERMIT NO.: GRD 14 - 0006

PROJECT NO.	130003.01
SCALE	AS SHOWN
DATE	5/30/2014
DRAWN BY	JDS/CLW
CHECKED BY	PVM/TJC
DRAWING NO.	C11.20

31 OF 66 SHTS

FILE NAME: P:\Proj30\130003.01 Aris T. Allen Property\10_Dwgs\CADD\Working\C11.10-C11.20 STORM PROFILES.dwg PLOT TIME: Mon, 02 Jun 2014 - 1:05pm LAST SAVE: Mon, 02 Jun 2014 - 1:04pm BY: JSlobey