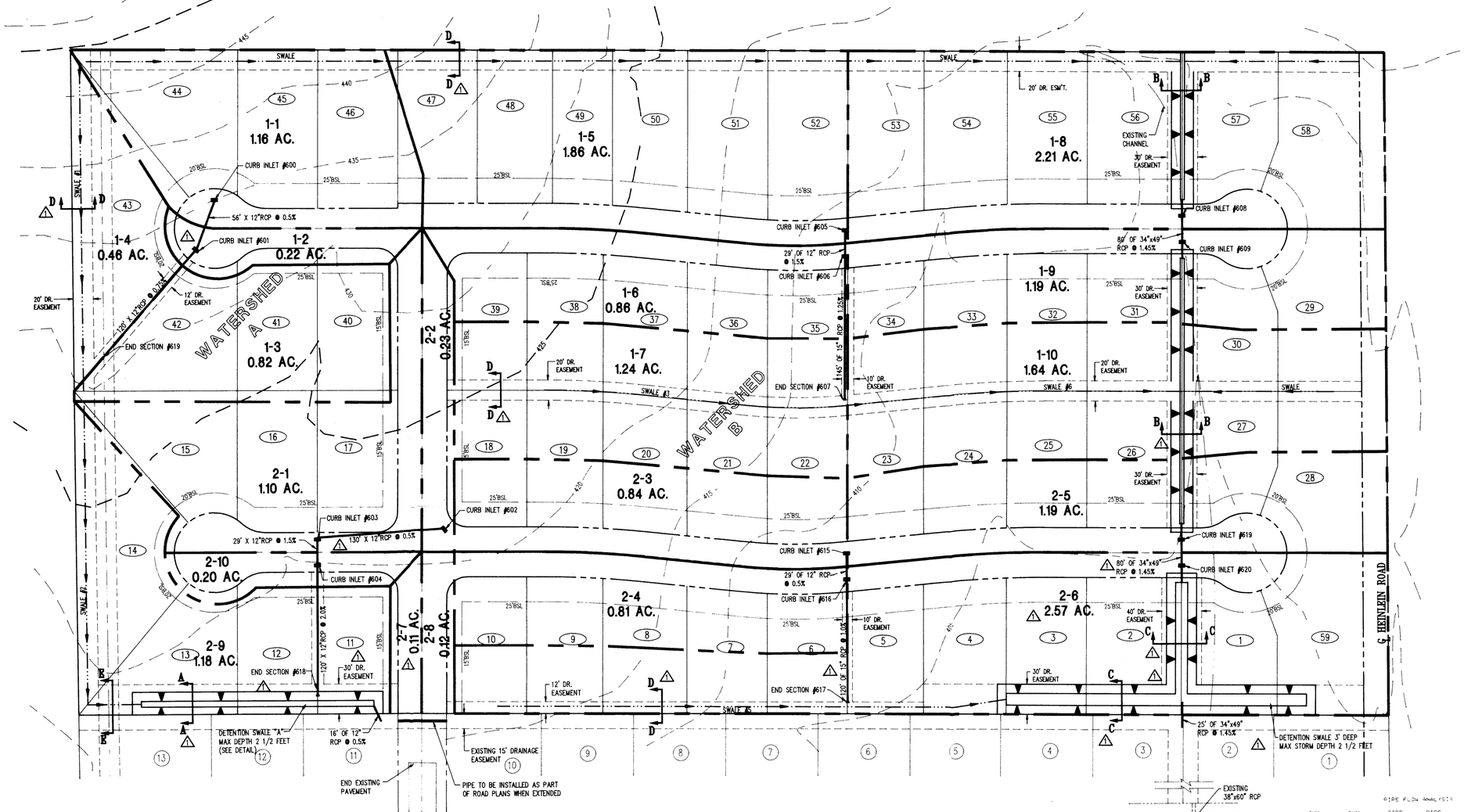
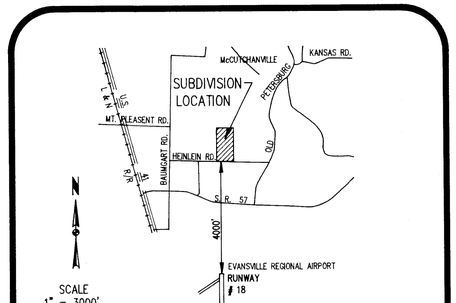
BROADLAWN ESTATES SUBDIVISION





Location Map

Temporary Erosion Control:

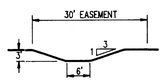
- Slopes of 0% to 6% shall be mulched and seeded with a cover crop, i.e., rye, red top, or wheat, within (45) days of disturbance of soil and must remain in place until final grading and shaping.

Slopes of more than 6% shall be muched and seeded and shall have straw bales and/or erosion blankets in place within (45) days of disturbance of soil and must remain in place until final grading and shaping.

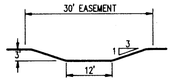
Erosion Control for Ditches:
Slopes of 0% to 2% shall be mulch and seeded within 45 days of disturbance.

Slopes of 2% to 8% sahll be sodded or stabilized with an erosion control mat at completion of ditch grading.

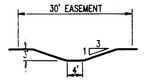
Slopes over 8% require riprap or other approved stabilization at completion of ditch grading if the total ditch length at that point is greater than 100 feet.



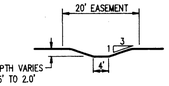
SECTION A-A
N.T.S



SECTION C-C
N.T.S



SECTION B-B
N.T.S



SECTION D-D
N.T.S TYPICAL SWALE

SECTION E-E
N.T.S

PROJECT: BROADLAWN ESTATES - WATERSHED A DATE: 94 02 29
ENGINEER:MORLEY AND ASSOCIATES,INC

DESIGN RETURN PERIOD:	5-25-100
RELEASE RATE PERIOD:	5-25-100
WATERSHED AREA (ACRES):	5.15
TIME OF CONCENTRATION(UNDEVELOPED):	23.75
RAINFALL INTENSITY (INCHES/HR):	3.95
UNDEVELOPED RUNOFF COEFFICIENT:	.33
UNDEVELOPED RUNOFF RATE (CFS):	6.84
DEVELOPED RUNOFF COEFFICIENT:	.455

25 YEAR STORM

STORM DURATION (HRS)	RAINFALL INTENSITY (INCH/HR)	INFLOW RATE (CFS)	OUTFLOW RATE (CFS)	STORAGE REQUIRED RATE (CFS)	STORAGE (ACRE-FT)
.08	6.85	16.36	6.84	9.52	.063
.17	5.45	13.02	6.84	6.18	.087
.25	4.65	11.11	6.84	4.25	.089
.33	4.15	9.91	6.84	3.07	.084
.42	3.80	9.08	6.84	2.23	.078
.50	3.40	8.12	6.84	1.28	.053
.58	3.20	7.64	6.84	.80	.039
.67	2.85	6.81	6.84	-.04	-.002
.75	2.75	6.57	6.84	-.27	-.017
.83	2.60	6.21	6.84	-.63	-.044
.92	2.45	5.85	6.84	-.99	-.076
1.00	2.30	5.49	6.84	-1.35	-.112
1.25	2.05	4.90	6.84	-1.95	-.203
1.50	1.85	4.42	6.84	-2.42	-.303
1.75	1.60	3.82	6.84	-3.02	-.441
2.00	1.40	3.34	6.84	-3.50	-.583
2.50	1.25	2.99	6.84	-3.86	-.804
3.00	1.10	2.63	6.84	-4.22	-1.054
4.00	.84	2.01	6.84	-4.84	-1.612

PEAK STORAGE (ACRE/FT): .09
PEAK STORAGE (CUBIC FT): 3869.86

PROJECT: BROADLAWN ESTATES - WATERSHED B DATE: 94 02 25
ENGINEER:MORLEY AND ASSOCIATES,INC

DESIGN RETURN PERIOD:	5-25-100
RELEASE RATE PERIOD:	5-25-100
WATERSHED AREA (ACRES):	14.75
TIME OF CONCENTRATION(UNDEVELOPED):	29.13
RAINFALL INTENSITY (INCHES/HR):	3.39
UNDEVELOPED RUNOFF COEFFICIENT:	.33
UNDEVELOPED RUNOFF RATE (CFS):	16.50
DEVELOPED RUNOFF COEFFICIENT:	.455

25 YEAR STORM

STORM DURATION (HRS)	RAINFALL INTENSITY (INCH/HR)	INFLOW RATE (CFS)	OUTFLOW RATE (CFS)	STORAGE REQUIRED RATE (CFS)	STORAGE (ACRE-FT)
.08	6.85	45.97	16.50	29.47	.196
.17	5.45	36.58	16.50	20.08	.284
.25	4.65	31.21	16.50	14.71	.306
.33	4.15	27.85	16.50	11.35	.312
.42	3.80	25.50	16.50	9.00	.315
.50	3.40	22.82	16.50	6.32	.263
.58	3.20	21.48	16.50	4.98	.240
.67	2.85	19.13	16.50	2.63	.147
.75	2.75	18.46	16.50	1.96	.122
.83	2.60	17.45	16.50	.95	.066
.92	2.45	16.44	16.50	-.06	-.004
1.00	2.30	15.44	16.50	-1.06	-.089
1.25	2.05	13.76	16.50	-2.74	-.286
1.50	1.85	12.42	16.50	-4.09	-.511
1.75	1.60	10.74	16.50	-5.76	-.840
2.00	1.40	9.40	16.50	-7.11	-1.184
2.50	1.25	8.39	16.50	-8.11	-1.690
3.00	1.10	7.38	16.50	-9.12	-2.280
4.00	.84	5.64	16.50	-10.86	-3.621

PEAK STORAGE (ACRE/FT): .32
PEAK STORAGE (CUBIC FT): 13724.33

DRAINAGE BASIN ANALYSIS

BASIN	AREA (AC)	C	Tc (MIN)	INTENSITY (IN/HR)	Q (CFS)
1-1	1.16	.370	17.61	4.79	2.05
1-2	.22	.705	10.82	6.12	.95
1-3	.82	.294	17.97	4.73	1.14
1-4	.46	.242	15.45	5.16	.57
1-5	1.86	.387	15.24	5.20	3.74
1-6	.86	.584	13.52	5.53	2.78
1-7	1.24	.186	19.87	4.45	1.03
1-8	2.21	.380	21.45	4.23	3.55
1-9	1.19	.503	19.17	4.55	2.72
1-10	1.64	.150	23.49	3.98	.98
2-1	1.10	.453	14.07	5.42	2.70
2-2	.23	.624	12.73	5.69	.82
2-3	.84	.573	15.78	5.10	2.46
2-4	.81	.589	16.07	5.05	2.41
2-5	1.19	.503	18.86	4.60	2.75
2-6	2.57	.356	25.76	3.72	3.41
2-7	.11	.565	9.51	6.45	.40
2-8	.12	.605	9.59	6.43	.47
2-9	1.18	.284	24.10	3.90	1.31
2-10	.20	.781	9.19	6.90	1.06
	20.01	ACRES TOTAL			

PIPE FLOW ANALYSIS

SUM BASINS	SUM Q (CFS)	PIPE DIA (IN)	PIPE TYPE	% SLOPE	CAPACITY (CFS)
1-1	2.05	12	RCP	.50	2.7
1-1, 1-2	2.77	12	RCP	.75	3.2
2-2	.82	12	RCP	.50	2.7
1-3, 2-1, 2-2	4.18	12	RCP	1.50	4.5
1-3, 2-1, 2-2, 2-10	4.90	12	RCP	2.00	5.1
1-4	.57	- - - SWALE #1 - - -			
1-1, 1-2 1-4, 2-9	4.02	- - - SWALE #2 - - -			
1-1 THRU 1-4, 2-1, 2-2, 2-9, 2-10	9.44	- - - TOTAL TO DETENTION SWALE "A" - - -			
1-5	3.74	12	RCP	1.50	4.5
1-5, 1-6	6.33	15	RCP	1.25	7.5
1-7	1.03	- - - SWALE #3 - - -			
1-7, 1-10	6.76	- - - SWALE #4 - - -			
2-3	2.46	12	RCP	.50	2.7
2-3, 2-4	4.84	12	RCP	2.00	5.1
1-8, 1-9 & 42 AC.	45.14	34 x 49	RCP	1.45	52.0
1-5 THRU 1-10, 2-5 & 42 AC.	51.00	34 x 49	RCP	1.45	52.0
1-5 THRU 1-10, 2-3 THRU 2-6, & 42 AC.	58.65	34 x 49	RCP	1.45	52.0
		(PIPE SERVES AS RESTRICTIVE OUTLET FOR DETENTION SWALE "B")			
2-7	.40	- - - UNCONTROLLED - - -			
2-8	.47	- - - UNCONTROLLED - - -			

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Morley and Associates, INC.
Consulting Engineers/Surveyors/Architects
605 S.E. Martin Luther King Jr. Blvd.
Evansville, Indiana 47713
(812) 464-9585

Project: Broadlawn Estates

Sheet Title: Drainage Plan

Revisions			
No.	By	Date	Description
1	J.E.V.	2/28/94	RELOCATE DRAINAGE SWALE; CHANGE PIPE SIZES

DARYL JAMES HELFERT REGISTERED No. 20484 STATE OF INDIANA PROFESSIONAL ENGINEER

Scale: 1"=60'

Designed By: D.J.H.	Job Number: 94-2759-4
Drawn By: J.E.V.	Date: 2/11/94
Checked By:	Filename: DRAIN.DWG

Sheet Number: 1 Of: