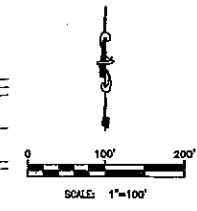
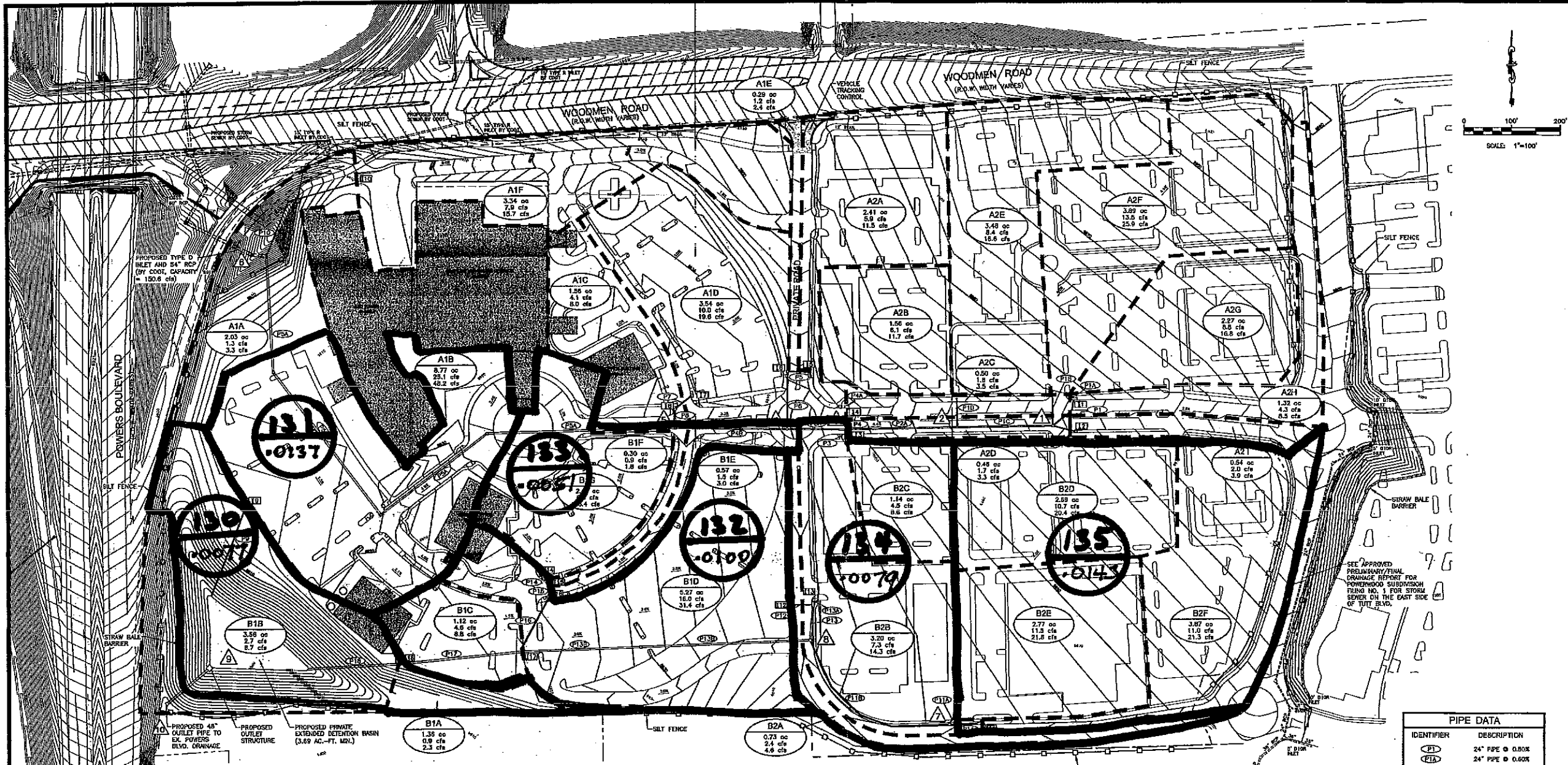


Kiawa Engineering Corporation
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**POWERWOOD SUBDIVISION FILING NO. 1
 DRAINAGE PLAN - DEVELOPED CONDITIONS
 POWERS BOULEVARD & WOODMEN ROAD
 COLORADO SPRINGS, COLORADO**

Project No.: 03067
 Date: June 16, 2004
 Design: NRR
 Drawn: NRR
 Check: AWM
 Revisions:

EXHIBIT 1



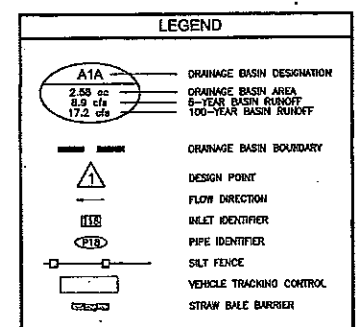
PROPOSED TYPE D
 INLET AND 14" RCP
 (BY CODE, CAPACITY
 = 150.6 cfs)

SEE APPROVED
 PRELIMINARY/FINAL
 DRAINAGE REPORT FOR
 POWERWOOD SUBDIVISION
 FILING NO. 1 FOR STORM
 SEWER ON THE EAST SIDE
 OF TUTT BLVD.

PROPOSED 48" OUTLET PIPE TO EX. POWERS BLVD. DRAINAGE STRUCTURE
 PROPOSED PRIVATE EXTENDED DETENTION BASIN (3.69 AC.-FT. MIN.)

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS

ITEM	QUAN.	UNIT	COST	AMOUNT
VEHICLE TRACKING CONTROL	1	EA	\$1,000.00	\$ 1,000.00
SILT FENCE	7654	LF	1.50	\$11,781.00
SEED AND MULCH	34.5	AD	\$600.00	\$20,700.00
INLET PROTECTION	17	EA	\$500.00	\$ 8,500.00
TOTAL				\$41,981.00



DRAINAGE BASIN FLOWS

BASIN	5-YEAR	100-YEAR	BASIN	5-YEAR	100-YEAR
A1A	1.3 cfs	3.3 cfs	B1A	0.9 cfs	2.3 cfs
A1B	25.1 cfs	48.2 cfs	B1B	2.7 cfs	8.7 cfs
A1C	4.1 cfs	8.0 cfs	B1C	4.6 cfs	8.8 cfs
A1D	10.0 cfs	19.8 cfs	B1D	16.0 cfs	31.4 cfs
A1E	1.2 cfs	2.4 cfs	B1E	1.5 cfs	3.0 cfs
A1F	7.9 cfs	15.7 cfs	B1F	0.9 cfs	1.8 cfs
A2A	6.9 cfs	11.5 cfs	B1G	0.5 cfs	1.8 cfs
A2B	8.1 cfs	11.7 cfs	B2A	2.4 cfs	4.6 cfs
A2C	1.8 cfs	3.5 cfs	B2B	7.3 cfs	14.3 cfs
A2D	1.7 cfs	3.3 cfs	B2C	4.5 cfs	8.6 cfs
A2E	8.4 cfs	16.6 cfs	B2D	10.7 cfs	20.4 cfs
A2F	13.5 cfs	25.9 cfs	B2E	11.5 cfs	21.8 cfs
A2G	8.8 cfs	16.8 cfs	B2F	11.0 cfs	21.3 cfs
A2H	4.3 cfs	8.5 cfs			
A2I	2.0 cfs	3.9 cfs			

DESIGN POINT FLOWS

	5-YEAR	100-YEAR
1	25.4 cfs	48.9 cfs
2	33.8 cfs	63.5 cfs
3	42.8 cfs	79.2 cfs
4	45.6 cfs	83.6 cfs
5	65.8 cfs	128.9 cfs
6	77.0 cfs	145.8 cfs
7	17.3 cfs	30.7 cfs
8	48.4 cfs	95.8 cfs
9	108.7 cfs	197.3 cfs
10	19.2 cfs (Historic)	37.2 cfs (Historic)

INLET DATA

IDENTIFIER	DESCRIPTION
I11	10' D-10-R CURB INLET
I12	5' D-10-R CURB INLET
I13	5' D-10-R CURB INLET
I14	10' D-10-R CURB INLET
I15	10' D-10-R CURB INLET
I16	5' D-10-R CURB INLET
I17	12' D-10-R CURB INLET
I18	6' D-10-R CURB INLET
I19	15' D-10-R CURB INLET
I20	5' D-10-R CURB INLET
I21	15' D-10-R CURB INLET
I22	4' D-10-R CURB INLET
I23	12' D-10-R CURB INLET
I24	6' D-10-R CURB INLET
I25	6' D-10-R CURB INLET
I26	15' D-10-R CURB INLET
I27	15' D-10-R CURB INLET
I28	4' D-10-R CURB INLET

PIPE DATA

IDENTIFIER	DESCRIPTION
P1	24" PPE @ 0.60%
P2	24" PPE @ 0.60%
P3	24" PPE @ 1.50%
P4	24" PPE @ 0.60%
P5	15" PPE @ 0.60%
P6	30" PPE @ 2.60%
P7	15" PPE @ 0.50%
P8	30" PPE @ 4.00%
P9	24" PPE @ 0.50%
P10	18" PPE @ 1.30%
P11	30" PPE @ 4.40%
P12	15" PPE @ 0.50%
P13	42" PPE @ 1.70%
P14	15" PPE @ 0.50%
P15	24" PPE @ 1.80%
P16	30" PPE @ 1.20%
P17	24" PPE @ 3.20%
P18	15" PPE @ 6.00%
P19	18" PPE @ 1.00%
P20	24" PPE @ 1.00%
P21	15" PPE @ 0.60%
P22	30" PPE @ 1.00%
P23	24" PPE @ 1.70%
P24	36" PPE @ 2.10%
P25	24" PPE @ 0.60%
P26	24" PPE @ 0.60%
P27	24" PPE @ 0.60%
P28	42" PPE @ 2.40%
P29	42" PPE @ 2.70%

OFF-SITE TR-20 MAP