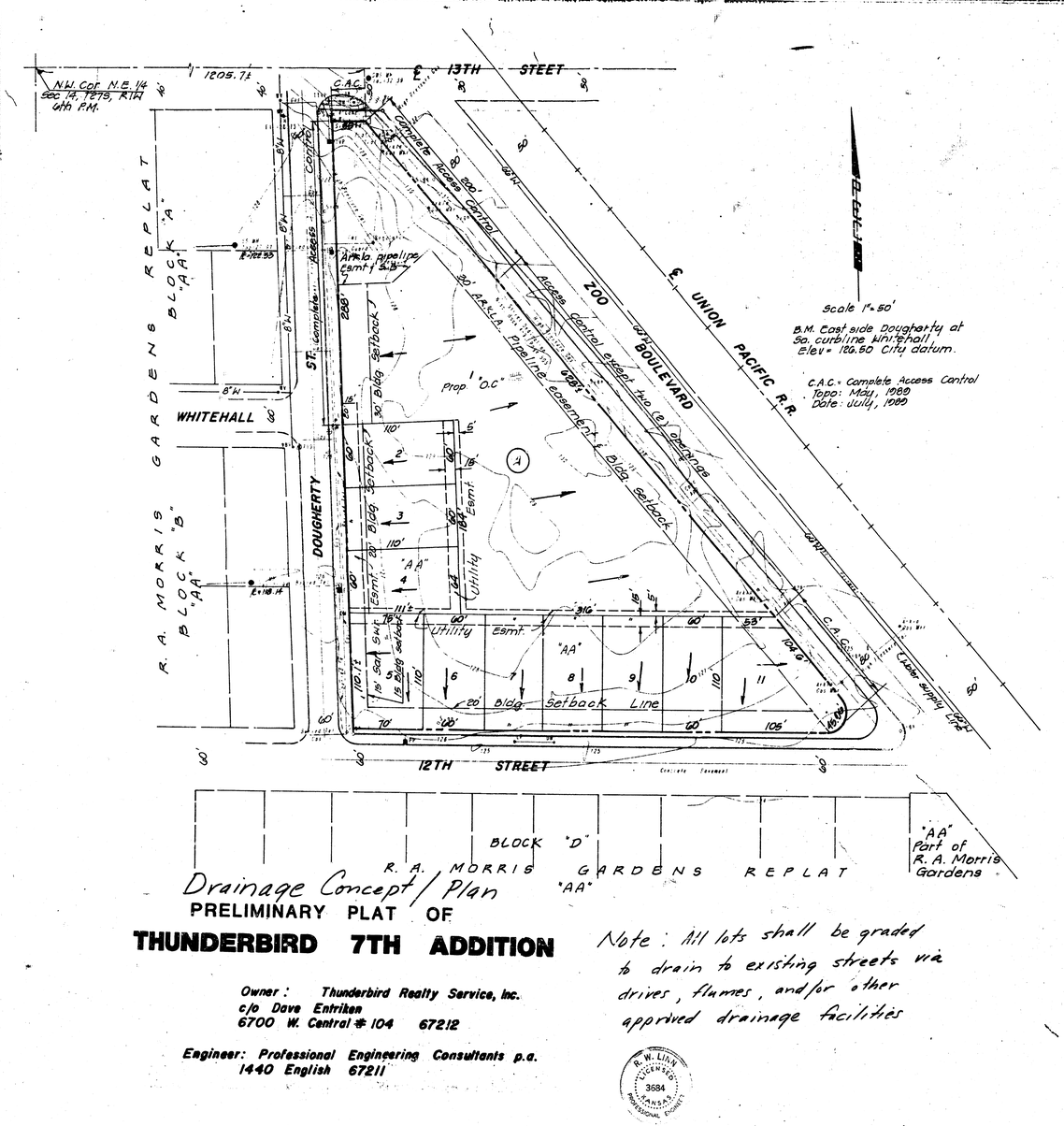


Drainage Concept / Plan

PRELIMINARY PLAT OF

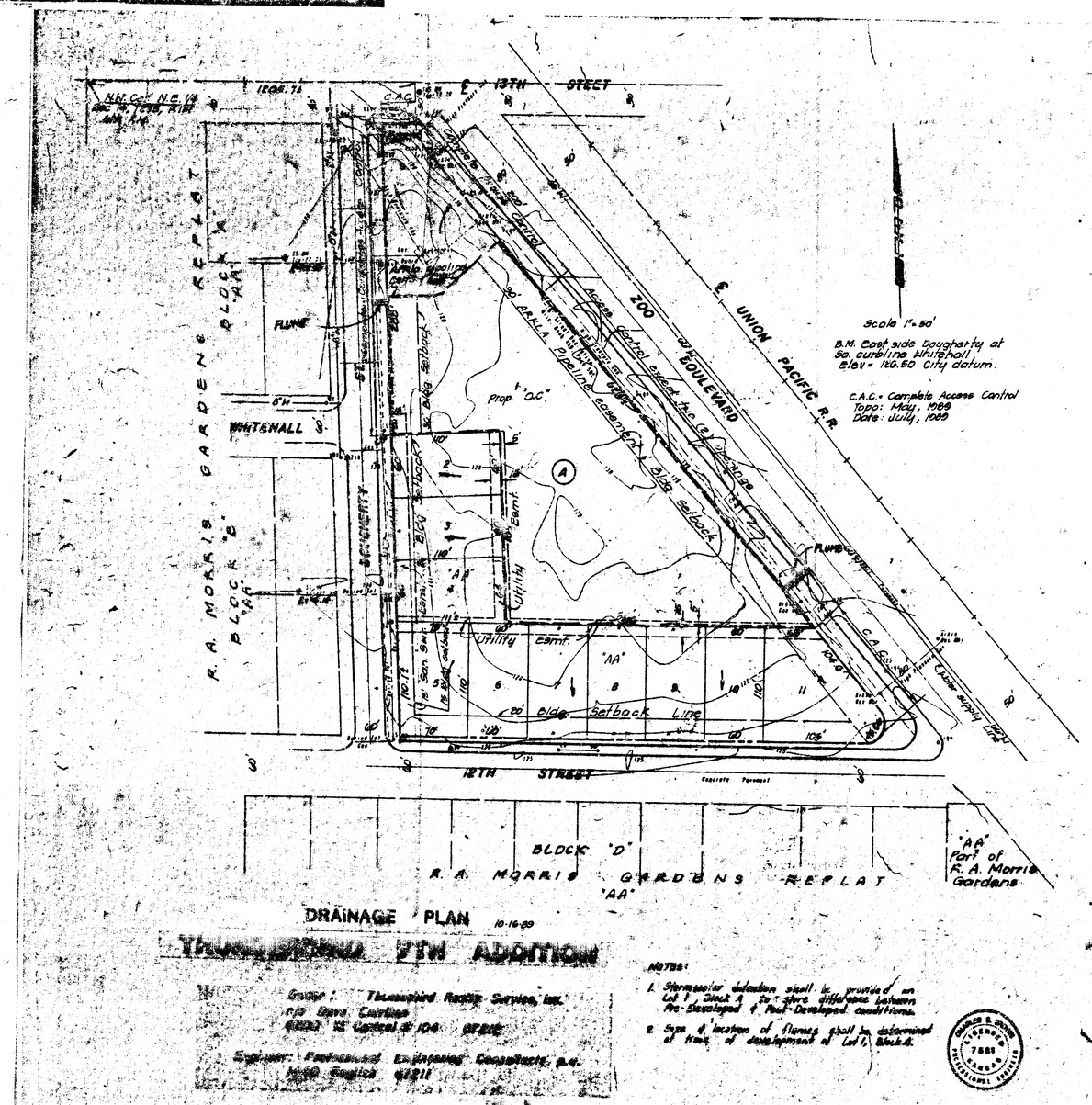
THUNDERBIRD 7TH ADDITION

Owner: Thunderbird Realty Service, Inc.
c/o Dave Entriken
6700 W. Central # 104 67212

Engineer: Professional Engineering Consultants p.a.
1440 English 67211

R. W. LINN LICENSED 3684 KANSAS PROFESSIONAL ENGINEER

Note: All lots shall be graded to drain to existing streets via drives, flumes, and/or other approved drainage facilities



DRAINAGE PLAN 10-16-89

THUNDERBIRD 7TH ADDITION

Owner: Thunderbird Realty Service, Inc.
c/o Dave Entriken
6700 W. Central # 104 67212

Engineer: Professional Engineering Consultants p.a.
1440 English 67211

NOTES:
1. Stormwater detention shall be provided on Lot 1 Block A to store difference between Pre-Developed & Post-Developed conditions.
2. Size & location of flumes shall be determined at time of development of Lot 1, Block A.

DANIEL E. BOGNER LICENSED 7581 KANSAS PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEERING CONSULTANTS, PA
1440 E. English
WICHITA, KANSAS 67211

(316) 262-2691

LETTER OF TRANSMITTAL

October 16, 1989 | 30-89140-1358
Ms. Vicky Hoang, P.E.
Thunderbird 7th Addition

TO Mr. Michael E. Lindebak, P.E.
City Engineer
455 North Main
Wichita, KS 67202

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:
☐ Shop drawings ☒ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
2	10-16-89		Drainage Plan & Supporting Calculations

THESE ARE TRANSMITTED as checked below:
☐ For approval ☐ Approved as submitted ☐ Resubmit ____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit ____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return ____ corrected prints
☒ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

Date 10-3-89 Page 1 of 2
Project Thunderbird 7th Addition
Item Drainage

Pre-Developed $Q_{100} = C_{100} I_{100} A$

C_{100}

Soil Type	Hyd. Group	Land Use	C_{100}
Ua	B	Open Space Urban Lawn 1-4%	0.41

I_{100} assume t_c = 15 min.
$\therefore I_{100} = 7.37$

A $(\frac{1}{4} \times 330 \times 370) + (55 \times 150 \div 2) + (55 \times 135) = 75,205\ SF = 1.73\ Ac.$

$Q_{100} = 0.41 \times 7.37 \times 1.73 = 5.2\ cfs$

Date 10-3-89 Page 2 of 2
Project Thunderbird 7th Addition
Item Drainage

Post Developed $Q_{100} = C_{100} I_{100} A$

C_{100}

Soil Type	Hyd. Group	Land Use	C_{100}
Ua	B	Neighborhood/ Business	0.80

I_{100} Assume t_c = 15 min.
$\therefore I_{100} = 7.37$

$A = 1.73\ Ac.$

$Q_{100} = 0.80 \times 7.37 \times 1.73 = 10.2\ cfs.$