

TO: SECRETARY OF THE IOWA SENATE, CHIEF CLERK OF THE IOWA HOUSE
OF REPRESENTATIVES, AND MEMBERS OF THE IOWA GENERAL ASSEMBLY

FROM: SERGE H. GARRISON, DIRECTOR AND GARY L. KAUFMAN, LEGAL COUNSEL,
IOWA LEGISLATIVE SERVICE BUREAU

DATE: April 22, 1981

As required by House File 707, approved May, 1980 by the Sixty-eighth General Assembly, the accompanying bill embodying a plan of legislative and congressional districting is delivered. At the direction of the Temporary Redistricting Advisory Commission, maps illustrating the plan, a summary of the standards for redistricting as required by House File 707, and a statement of the population of each district included in the plan are also being submitted. The summary of the standards for redistricting are provided in this document. The plan submitted and prepared is in strict adherence to the requirements of law.

STANDARDS FOR REDISTRICTING

Section 4 of House File 707, the text of which can be found in Chapter 42 of the 1981 Code of Iowa, requires that the redistricting standards shall be as follows:

1. Districts shall be established on the basis of population. The districts shall each have a population as nearly equal as practicable with the ideal population determined by dividing the number of districts to be established into the population of the state reported in the federal decennial census. Districts shall not vary in population from the ideal district for the congressional, state senatorial, and state representative districts by an average of more than one percent. The congressional, senatorial, or house districts shall not have a population which exceeds that of any other congressional, senatorial, or house district by more than five percent.

2. Within the population variance limitations of the first standard, and to the extent possible, the number of counties and cities divided among more than one district shall be as small as possible. When there is a choice between dividing local political subdivisions, the more populous subdivisions shall be divided before the less populous, except when a county line divides a city.

3. Districts shall be composed of convenient contiguous territory.

4. Districts shall be compact in form, however, the first three standards take precedence over the compactness standard. Methods for determining compactness are provided by law and include a population dispersion standard.

5. No districts shall be drawn for the purpose of favoring a political party, incumbent legislator or member of Congress, or other person or group, or for the purpose of augmenting or diluting the voting strength of a language or minority group. In establishing districts, no use shall be made of the following data:

- a. Addresses of incumbent legislators or members of Congress.
- b. Political affiliations of registered voters.
- c. Previous election results.

d. Demographic information, other than population head counts, except as required by the Constitutional laws of the United States.

6. Each representative district shall be included within a single senatorial district and, so far as possible, each representative and each senatorial district shall be included within a single congressional district.

7. The new districting plan shall not be used prior to the primary election of 1982. In other words, in the case of vacancies occurring before that time, the present congressional, senatorial, and house redistricting plans shall be used.

8. A senator who resides in an even-numbered senatorial district on April 2, 1982, shall not have to run for election to the senate in that year if the senator is the one and the only one incumbent senator residing within that even-numbered district.

METHODS USED IN MEETING DISTRICTING STANDARDS

It will be seen that the population requirements of the redistricting law have been met. The accompanying statistical information clearly illustrates this fact. In order to meet all of the standards, the Legislative Service Bureau adopted the procedure of first determining the congressional redistricting plan, placing senatorial districts within the congressional districts so as not to violate congressional district lines if possible, and placing two house districts within the senatorial districts. At no time was an incumbent ever considered nor were these standards violated. At no time during the period when the districts were being established was any attempt made to determine how incumbent legislators were being affected. Only when the plans had been completed did the Legislative Service Bureau attempt to determine any affect upon the incumbents, and that was only to meet the standard required by Article III, section 6 of the Iowa Constitution that "as nearly as possible one-half of the members of the senate shall be elected every two years." In order to do this, it was necessary to determine which of the senators elected from even-numbered districts in 1980 would be serving in a district where no other incumbent senator was located under the proposed plan. The intent of the law appears to require that if at all possible a senator elected to a four-year term in 1980 should be permitted to serve the full term. Therefore, an even number was

assigned to a senatorial district containing an incumbent senator elected from an even-numbered district in 1980, if, and only if, that senator was the only incumbent who resided in that district.

Many possible congressional plans were reviewed prior to selecting the plan contained in the bill being submitted. Case law indicates that congressional district plans must meet more strict population standards than do state senate and house district plans. The congressional districting plan involved very little, if any, discretion on the part of staff members of the Legislative Service Bureau since the standards contained in the law dictated the results. Since the Iowa Constitution provides that congressional districts must contain whole counties, the procedure adopted was to develop districts of equal, or almost equal, population, based upon various combinations of counties. The congressional plan submitted contains the best population standards of the plans developed by the Bureau. The Legislative Service Bureau cannot be sure that this plan is the best plan possible, but it has the lowest standard of deviation of the plans developed by the Bureau. The plan also resembles the geographic structure of the existing congressional plan.

Senatorial and house districts were developed within the congressional districts that resulted. Through the use of the computer and through staff effort, a number of plans were developed within each congressional district. They were compared based on the standards required by law. The determining factor for the plan selected was based upon a statistical analysis.

The intent of the Sixty-eighth General Assembly in enacting House File 707 appears to be to end the confusion resulting in the mind of voters and candidates because of the present plan, which does not in many cases follow political subdivisions and has certain irregular shapes to it. This is not a criticism of the present plan, because at the time it was developed the United States Supreme Court had indicated that population equality was practically the only standard to be considered. Since that time, courts have allowed retention of political subdivision boundaries in many cases for state legislative districting and this plan retains many political subdivisions, which should reduce voter and candidate confusion.

STATISTICAL ANALYSIS OF THE PROPOSED PLAN

Population

Chapter 42, Code 1981, requires that the senatorial and representative districts have "a population as nearly equal as practicable to the ideal population for such districts". The proposed plan for the representative districts has an average deviation from the ideal population of 0.0975 percent. Thus the average deviation from the ideal representative district population of 29,134 persons is only 28.4 persons. The population variance ratio of the largest district to the smallest district is 1.0092.

The proposed senatorial districts have an average deviation from the ideal population of 0.0612 percent. Thus the average deviation from the ideal senatorial district population of 58,268 persons is only 35.7 persons. The population variance ratio of the largest district to the smallest district is 1.0046.

The proposed congressional plan has an average deviation from the ideal population of 0.0392 percent. Thus the average deviation from the ideal congressional district population of 485,564 persons is 190.3 persons. The population variance ratio of the largest district to the smallest district is 1.0019.

Retention of Political Subdivisions

Chapter 42 also requires that "so far as possible, each representative and each senatorial district shall be included within a single congressional district", and that "the number of counties and cities divided among more than one district shall be as small as possible". A summary of the proposed plan's attempt to meet these standards is shown in the attached Tables I and II. Only four house districts and three senate districts cross congressional district lines, compared to 21 house districts and 16 senate districts under the current plan. Under the proposed state legislative districting plan, 35 counties are contained entirely within one house district, and 14 other counties are only one or two townships away from being totally contained within a single house district. This compares with 14 counties which are contained entirely within a single house district under the current plan. Also under the proposed plan, 53 counties are contained entirely within one senate district, and six other counties are only one or two townships away from being totally contained within a single senate district. This compares with 33 counties that are contained entirely within a single senate district under the current plan. In addition several cities are retained intact in the proposed redistricting plan. A partial summary of these cities is shown in Table II.

Compactness

The total length-width compactness of the senate and house districts under the proposed plan is 122.670 and 183.379, respectively. In the proposed senate plan, the average district's ratio of length to width is 1.442, and for the average house district the ratio is 1.535. A perfect length-width compactness ratio would be 1.00, but this is not to be expected since the state itself is not perfectly square. The length-width compactness ratio of the state is 1.485, so the average house and senate compactness ratios only differ from the state ratio by 3.4 percent and 2.9 percent, respectively.

The length-width compactness for the proposed congressional plan is 11.43, with an average length-width compactness ratio of 1.331.

The average population dispersion compactness for the proposed house, senate, and congressional plans are 0.9382, 0.9401, and 0.8068, respectively. A perfect population dispersion compactness would be 1.00.

STAGGERED SENATE TERMS

As previously indicated, no recognition was ever given to political parties, incumbent legislators, members of Congress, or other persons or groups in the establishment of the districts. However, in order to better comply with section 6 of Article III which requires that "as nearly as possible one-half of the members of the senate shall be elected every two years", the senatorial districts were reviewed and if an incumbent senator elected from an even-numbered district in 1980 was found to be the only incumbent senator in that district, the senate district was given an even number. This will reduce the number of required elections for senators in 1982 and is consistent with the directions of the Iowa Constitution. While the numbering of the districts may appear to be somewhat irregular, it is submitted that the present districting plan also contains districts similarly numbered.

COMMENTS REGARDING PROBLEMS IN PREPARING REDISTRICTING PLAN

The greatest problem facing the staff of the Legislative Service Bureau in preparing the present plan was the lack of adequate time. This is not the fault of either the 1980 or 1981 Iowa General Assembly, because certified census figures were not timely available. However, the time of two weeks for submitting a second and third plan is not adequate to do all that might be desired in preparing a plan. It should be remembered that the redistricting law anticipated two months for preparation of the first plan. The Bureau is submitting the plan five and one-half weeks following the receipt of the official census data. The Bureau believes that it is appropriate that this regular session, the Sixty-ninth General Assembly, should have the opportunity to consider a plan and therefore agrees with the stepped-up period of time for preparation of the plan. However, because of the short length of time, the Bureau has not had the opportunity to review its work as closely as it desires. The Bureau learned much in preparing the plan and when completed would have liked to have reviewed its work in light of the knowledge it gained. The Bureau actually only had two and one-half weeks to prepare the plan since it took approximately two weeks to place census data on the computer and on maps so that the Bureau could commence preparing a plan. Once a plan was developed, it took ten days to prepare the maps, write the bill, have necessary copies printed, xeroxed, typed, and prepare the material for submission to the members of the General Assembly and the public. Thus the actual time allowed for preparation of the plan was not long. The bill is very complex because within cities it is necessary to describe the plan without using existing political subdivisions. The Bureau believes that it will have to continue to review the bill and it hopes that others will review the bill so that any errors in description that might result can be corrected prior to the time the bill is introduced. The Bureau hopes that the hearings will assist correcting any errors and that others having interests in reapportionment will provide information to the Bureau if errors should be discovered.

If second and third plans are required, a two-week preparation time appears wholly inadequate when it is considered that the actual mechanics of preparing maps, having the maps printed, drafting the bill, and preparing the other materials, takes at least a week, if substantial overtime work is completed.

HEARINGS ON PLAN BY TEMPORARY REDISTRICTING ADVISORY COMMISSION

The law requires three hearings in different geographical areas of the state for the first plan submitted. The Temporary Redistricting Advisory Commission has established the hearing dates for April 29, 30, and May 1.

The first hearing will be held in the Exposition Room of the City Auditorium in Sioux City and will commence at 4:00 p.m.

The second hearing to be conducted by the Temporary Redistricting Advisory Commission will be held in Shambaugh Auditorium of the Main Library of the University of Iowa. The hearing will commence at 4:00 p.m.

The third hearing will be held on May 1, 1981, in the State House and will commence at 4:00 p.m.

The Temporary Redistricting Advisory Commission is required by law to submit copies of the bill delivered by the Legislative Service Bureau, maps illustrating the plan, a summary of the standards required by law, and the other previously stated standards and has instructed the Bureau to do so.

A report of the Temporary Redistricting Advisory Commission summarizing information and testimony received will be submitted to the General Assembly following the hearings.

ACKNOWLEDGEMENTS

The director of the Iowa Legislative Service Bureau is grateful to the members of the Temporary Redistricting Advisory Commission, Mr. Stanley McCausland, Director of the Department of General Services, Mr. Verne Lundquist, State Printer, Mr. Dale Nelson, Mr. Jerry Lewis, and Mr. Dennis Peters of the Division of Data Processing of the State Comptroller office, Ms. Cathy Talbert of the United States Department of Commerce, Bureau of the Census, and Mr. John Liittschwager of the University of Iowa, for their cooperation. The members of the staff of the Legislative Service Bureau, who have put in hundreds of hours of overtime in order to complete the plan, should also be recognized.

Finally, the contributions of Phil Burks should not be forgotten. All procedures for the development of the reapportionment plan were determined by Phil Burks prior to his death. Phil's efforts will not be forgotten and will always be appreciated.

T A B L E I

S T A N D A R D S

RETENTION OF POLITICAL SUBDIVISIONS

	<u>PROPOSED PLAN</u>	<u>CURRENT PLAN</u>
NUMBER OF COUNTIES CONTAINED TOTALLY WITHIN ONE HOUSE DISTRICT	35	14
NUMBER OF COUNTIES CONTAINED TOTALLY WITHIN ONE SENATE DISTRICT	53	33

CROSSING OF CONGRESSIONAL DISTRICT LINES

	<u>PROPOSED PLAN</u>	<u>CURRENT PLAN</u>
NUMBER OF HOUSE DISTRICTS THAT CROSS CONGRESSIONAL DISTRICT LINES	4	21
NUMBER OF SENATE DISTRICTS THAT CROSS CONGRESSIONAL DISTRICT LINES	3	16

T A B L E I I

S T A N D A R D

RETENTION OF POLITICAL SUBDIVISIONS

COUNTIES

THE FOLLOWING COUNTIES ARE TOTALLY CONTAINED WITHIN ONE HOUSE DISTRICT UNDER THE PROPOSED LEGISLATIVE REDISTRICTING PLAN:

Adair	Fayette	Monona
Adams	Fremont	Monroe
Appanoose	Hamilton	Osceola
Benton	Howard	Page
Buchanan	Humboldt	Plymouth
Calhoun	Keokuk	Ringgold
Cedar	Louisa	Taylor
Cherokee	Lucas	Union
Chickasaw	Lyon	Wayne
Crawford	Mahaska	Winnebago
Davis	Mills	Worth
Decatur	Mitchell	

IN ADDITION TO THE ABOVE COUNTIES, THE FOLLOWING COUNTIES ARE CONTAINED TOTALLY WITHIN ONE SENATE DISTRICT UNDER THE PROPOSED REDISTRICTING PLAN:

Buena Vista	Greene	Marshall
Butler	Hancock	Montgomery
Carrroll	Harrison	Palo Alto
Clarke	Jasper	Warren
Clayton	Jefferson	Winneshiek
Emmet	Lee	Wright

CITIES

THE FOLLOWING CITIES, WHICH EITHER CROSS COUNTY LINES OR WHOSE PRECINCTS WERE CERTIFIED TO THE CENSUS BUREAU, ARE CONTAINED TOTALLY WITHIN ONE HOUSE DISTRICT UNDER THE PROPOSED LEGISLATIVE REDISTRICTING PLAN:

Ackley	Johnston	Shenandoah
Ankeny	Luverne	Stratford
Cascade	Muscatine	Stuart
Clive	North English	Urbandale
Coralville	Ottumwa	Victor
Dyersville	Postville	West Bend
Evansdale	Sageville	Wilton
Forest City	Shelby	Windsor Heights
Gilmore City	Sheldon	

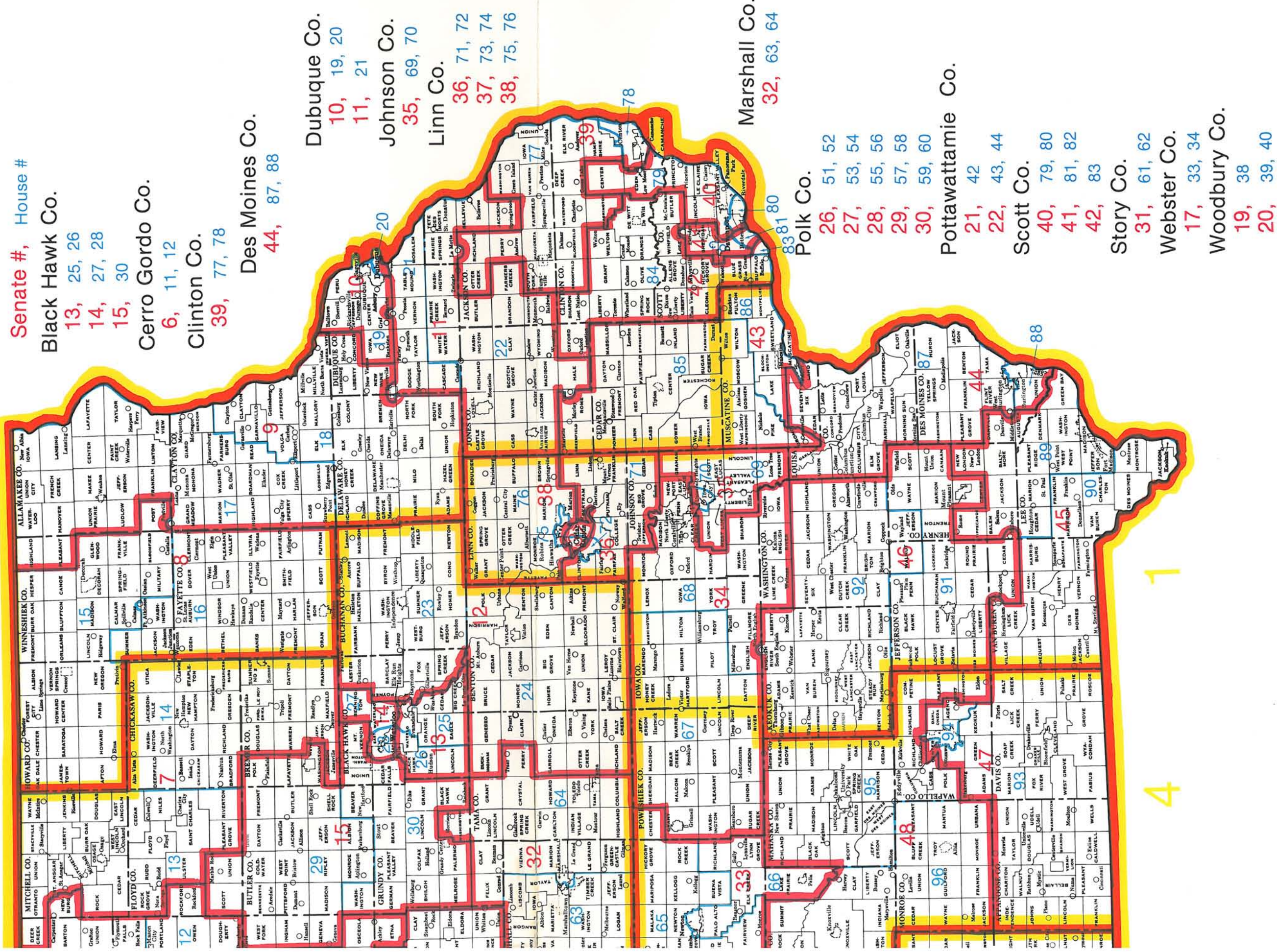
IN ADDITION TO THE ABOVE CITIES, THE FOLLOWING CITIES WHICH EITHER CROSS COUNTY LINES OR WHOSE PRECINCTS WERE CERTIFIED TO THE CENSUS BUREAU ARE TOTALLY CONTAINED WITHIN ONE SENATE DISTRICT UNDER THE PROPOSED REDISTRICTING PLAN:

Ames	Eddyville	Marshalltown
Bettendorf	Fort Dodge	Mason City
Burlington	Iowa City	Tabor
Clinton	Marion	West Des Moines

ative Redistricting Plan

2

SEE METROPOLITAN MAP FOR DETAIL:

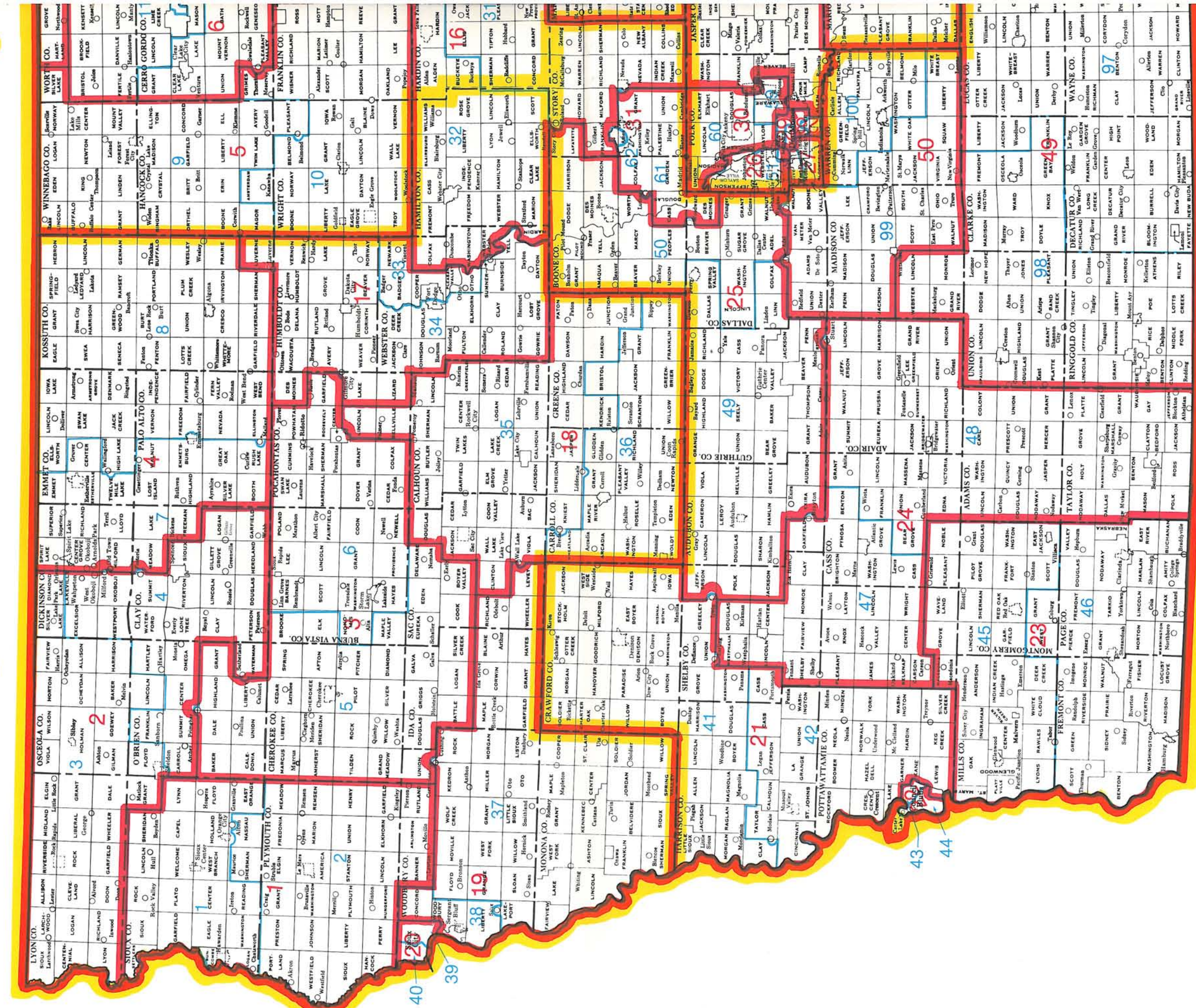


Proposed Congressional and Legisla

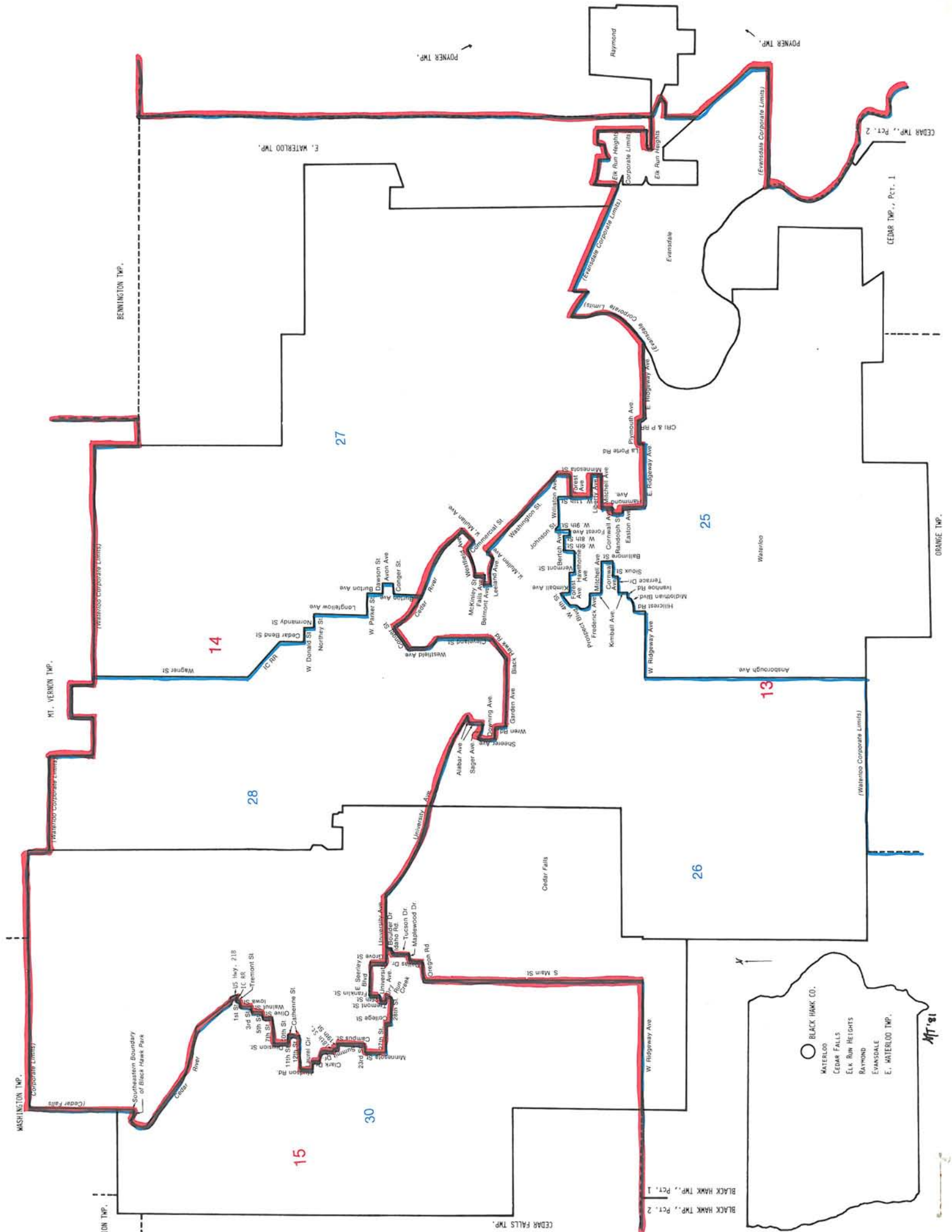
April 1981

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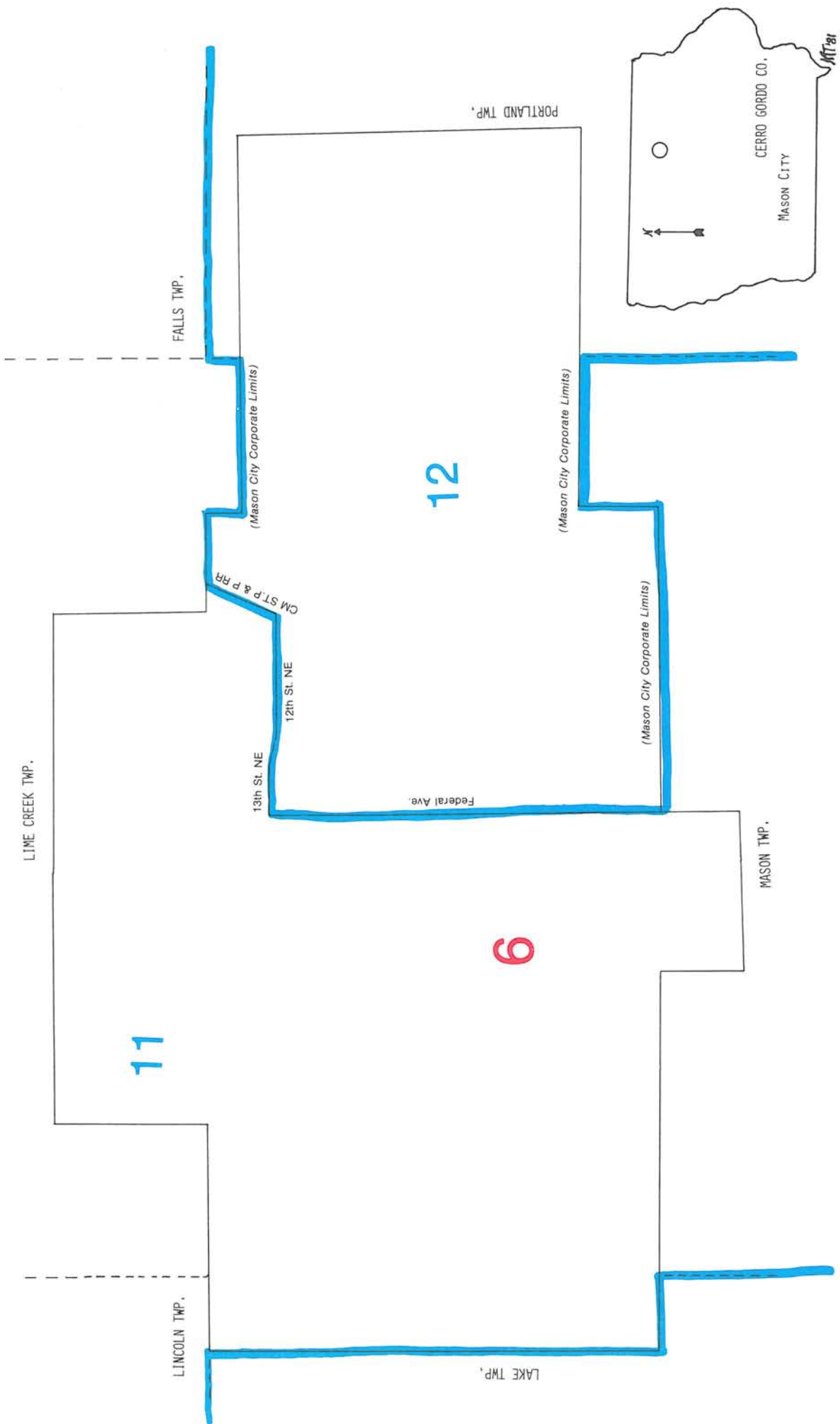
BLACK HAWK CO.
 ○ BLACK HAWK CO.
 WATERLOO
 CEDAR FALLS
 ELK RUN HEIGHTS
 RAYMOND
 EVANSDALE
 E. WATERLOO TWP.
 Cedar Falls
 Waterloo
 Mt. Vernon
 Cedar Falls
 Waterloo

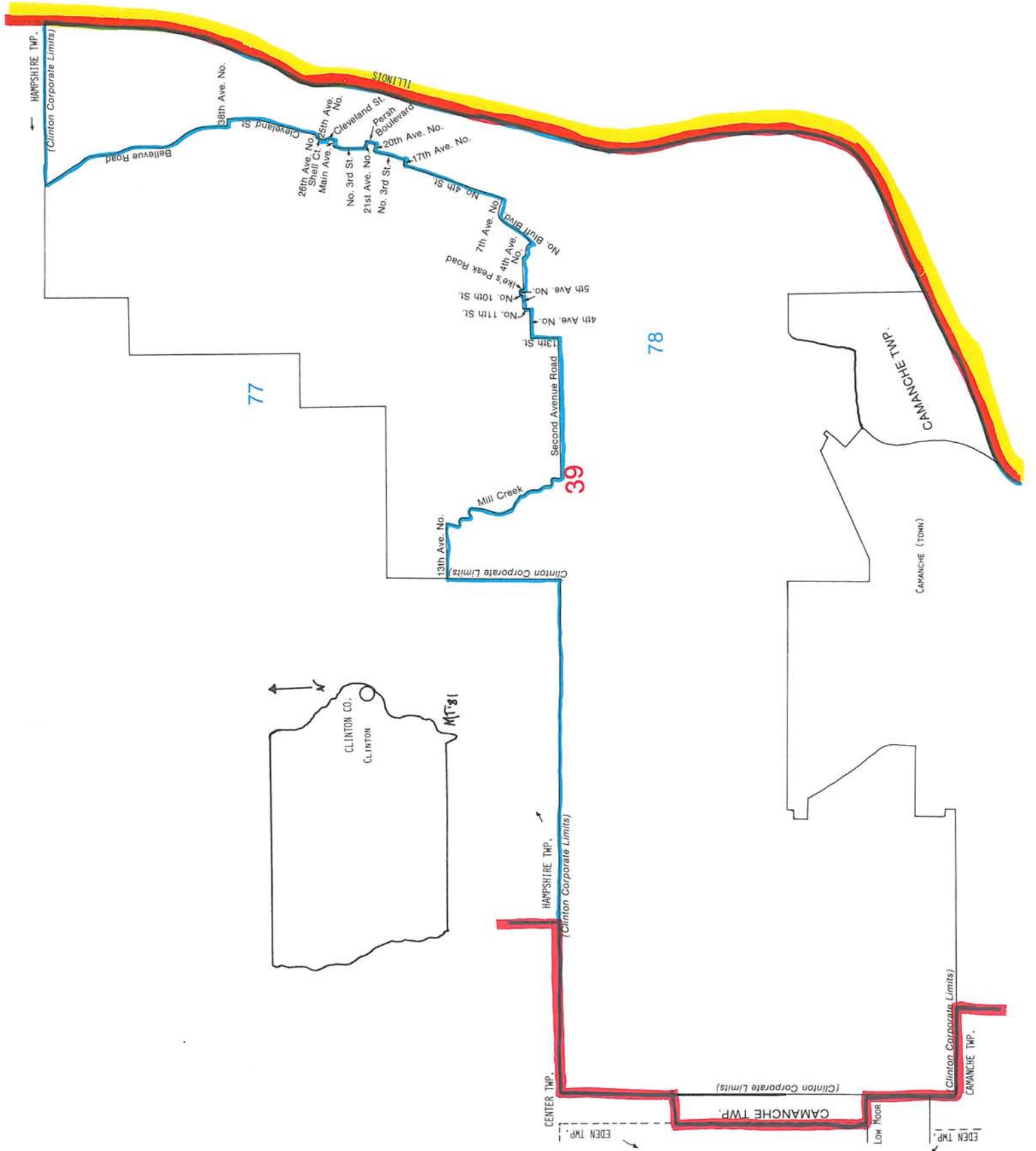
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 Waterloo Corporate Limits
 Poyner Twp.
 Cedar Twp., Pct. 1
 Cedar Twp., Pct. 2
 Orange Twp.
 Mt. Vernon Twp.
 Bennington Twp.
 Washington Twp.
 Union Twp.
 Cedar Falls Twp.
 E. Waterloo Twp.

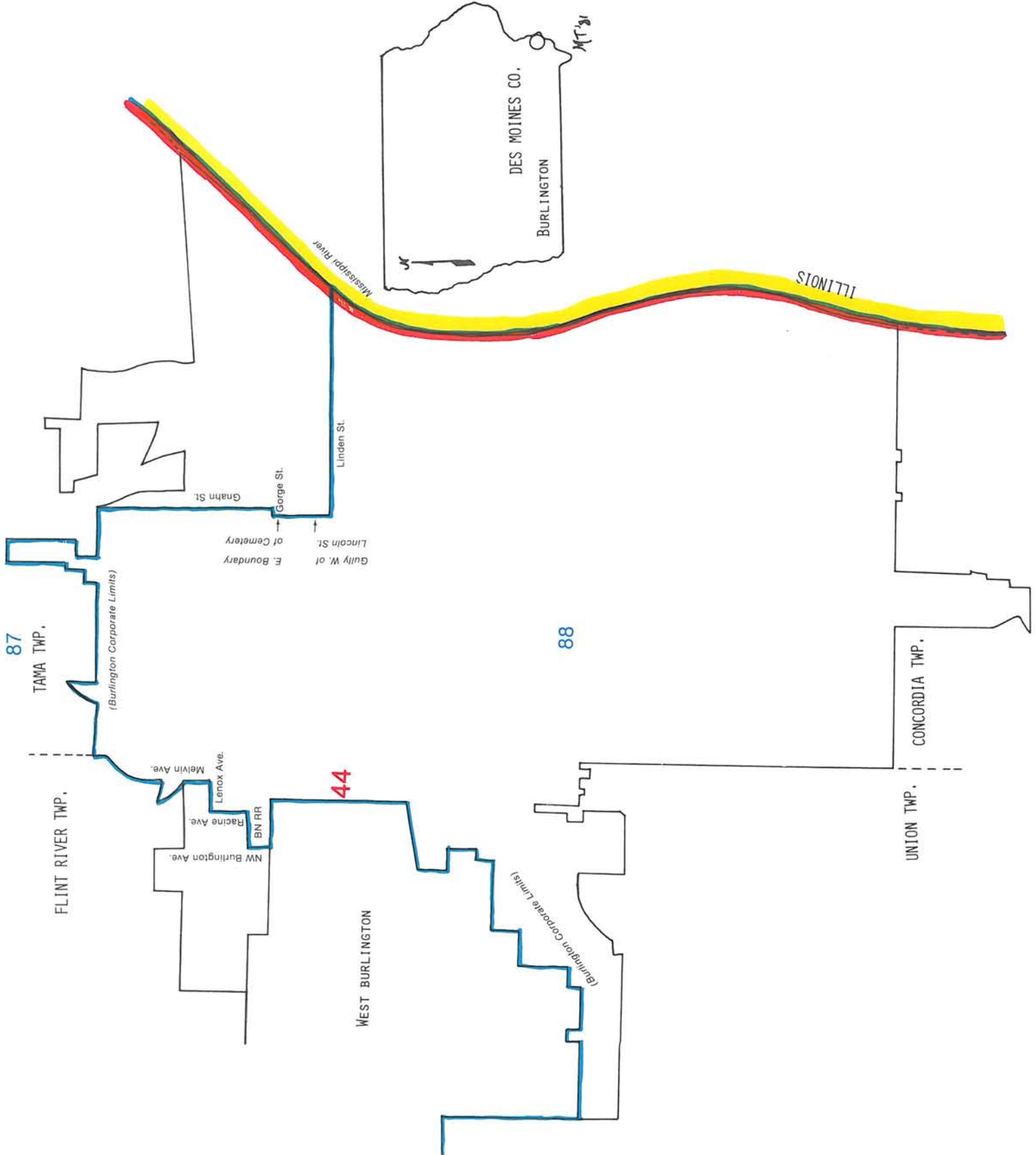
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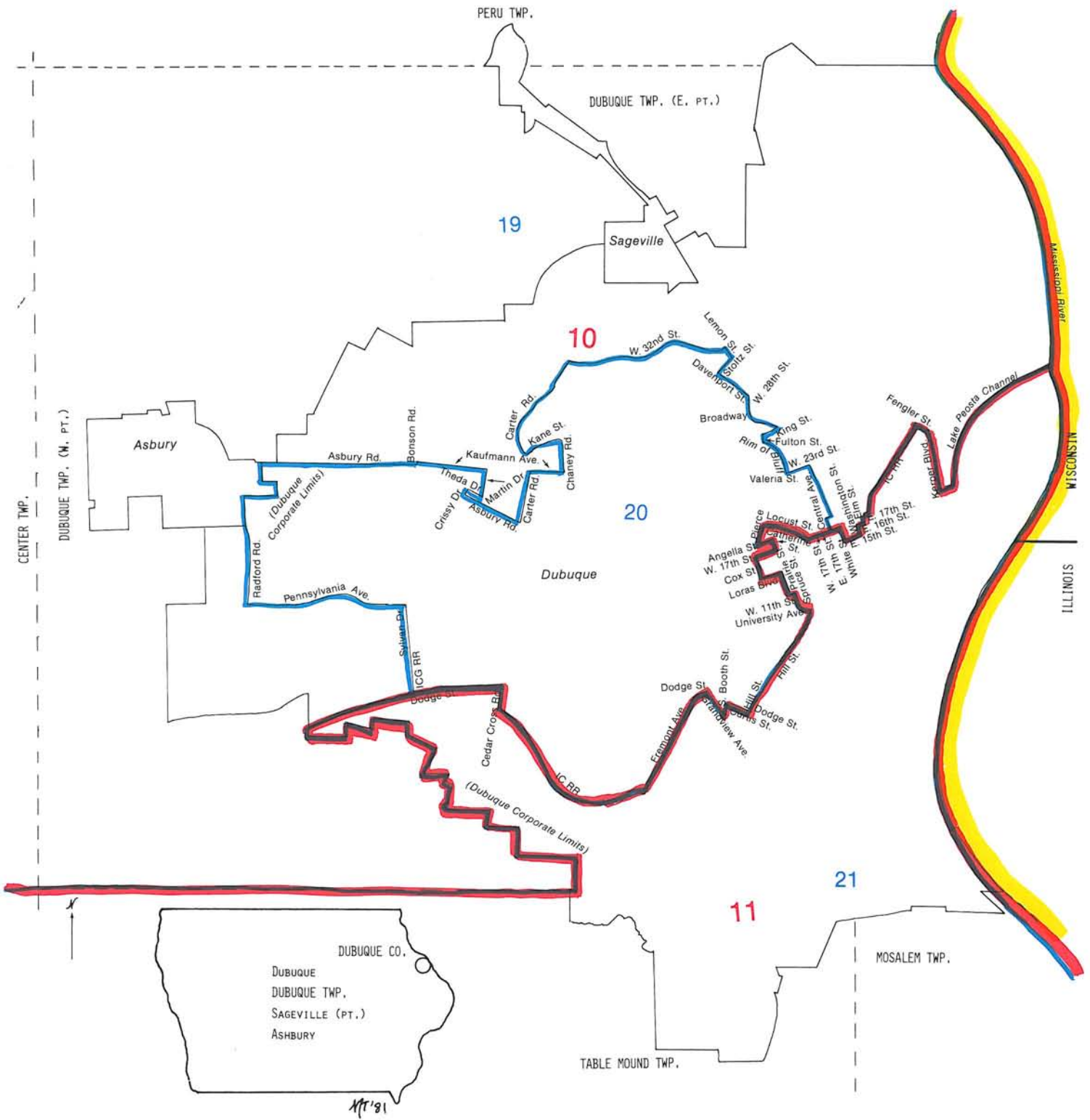
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 W. Rte 30









PERU TWP.

DUBUQUE TWP. (E. PT.)

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Sageville

10

Asbury

20

Dubuque

WISCONSIN

11

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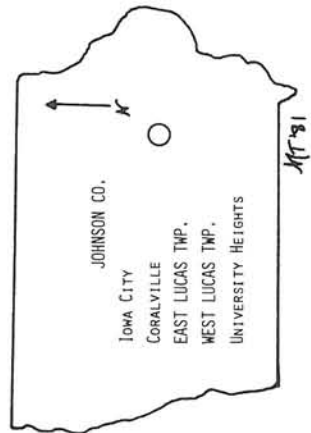
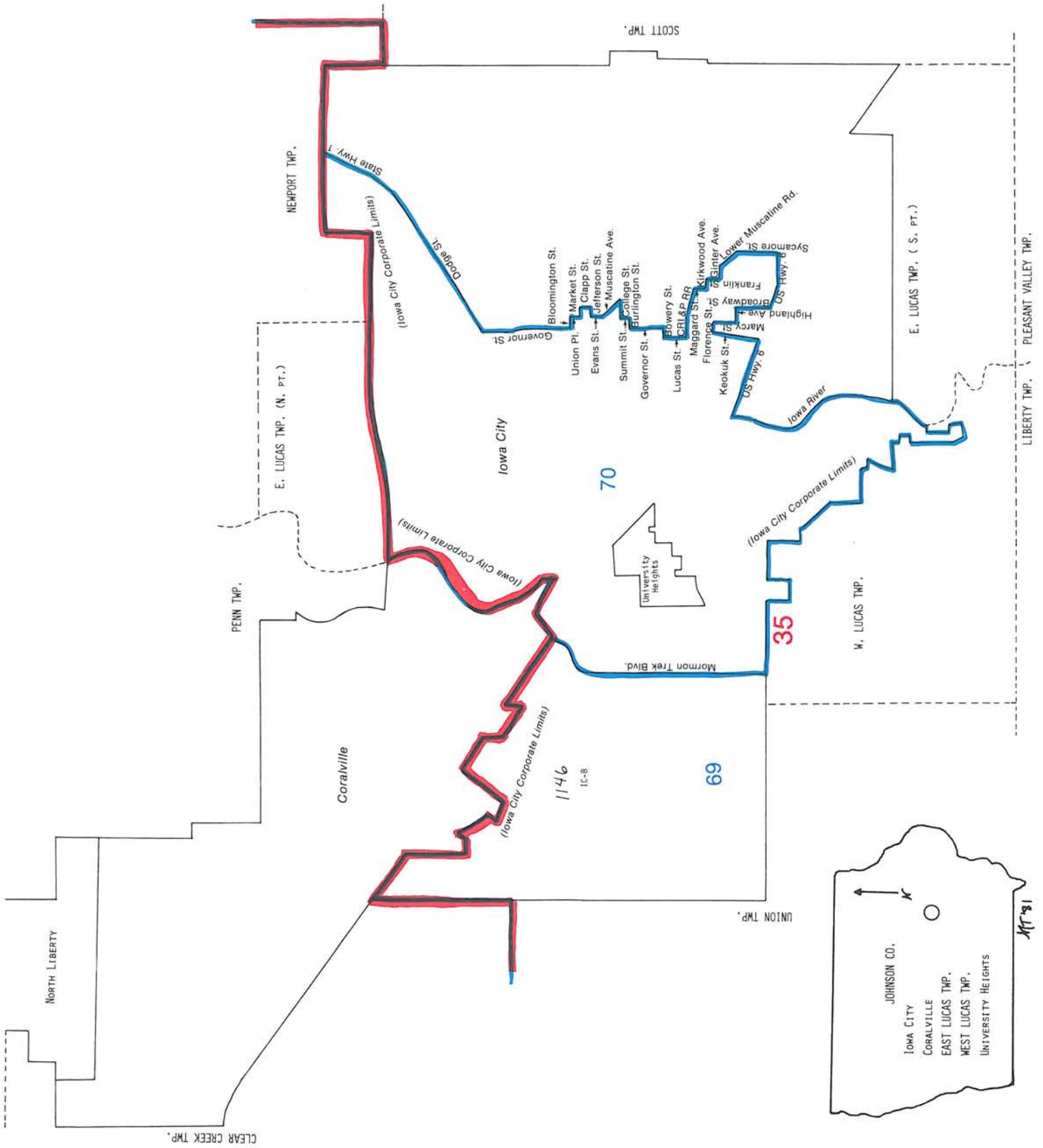
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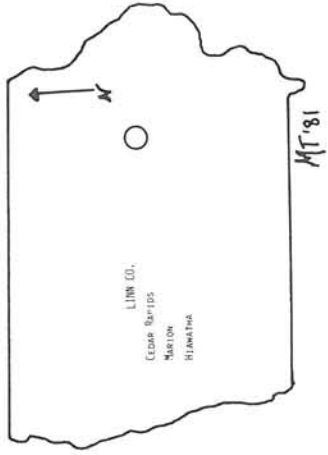
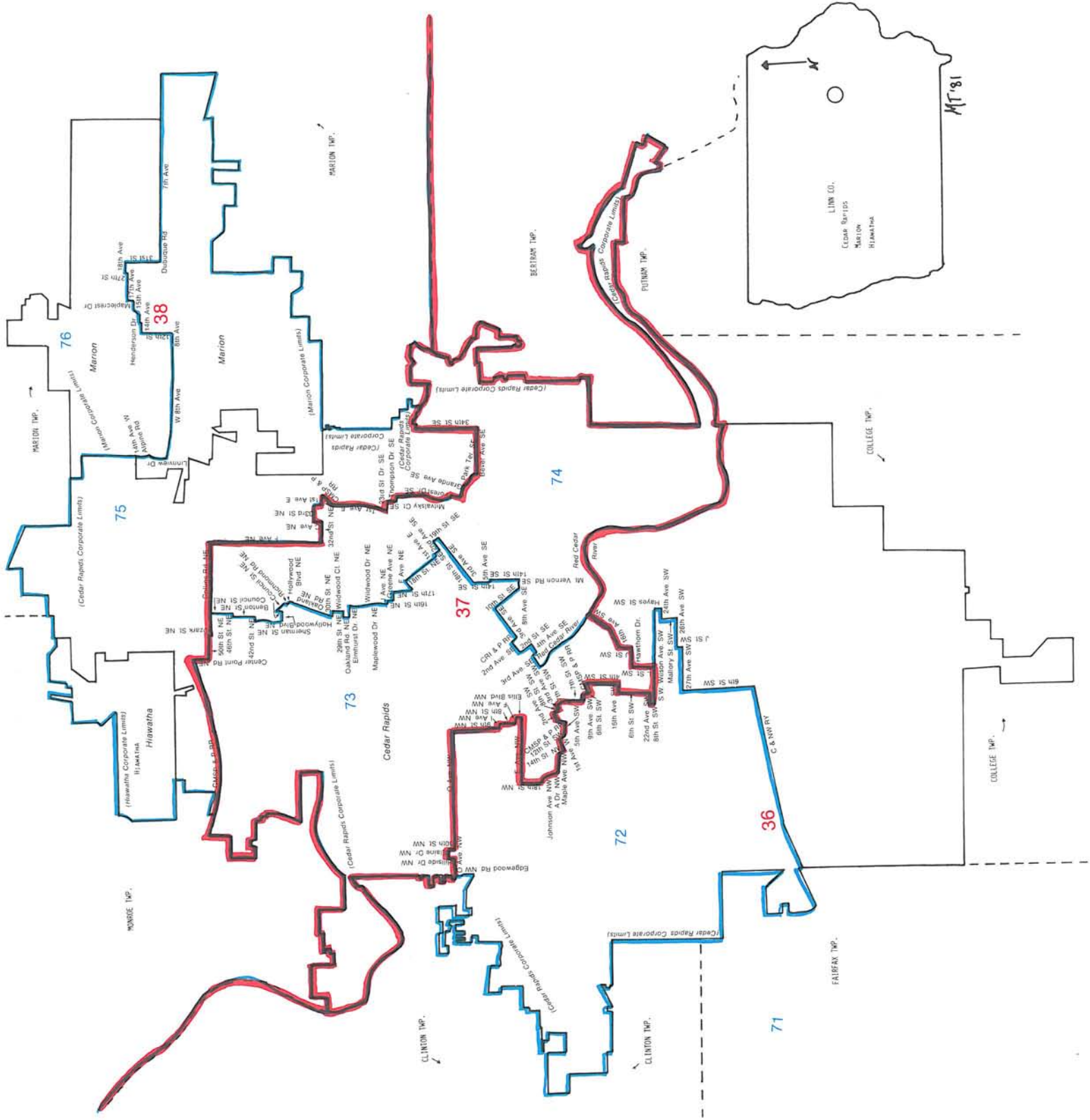
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SAGEVILLE (PT.)
ASHBURY

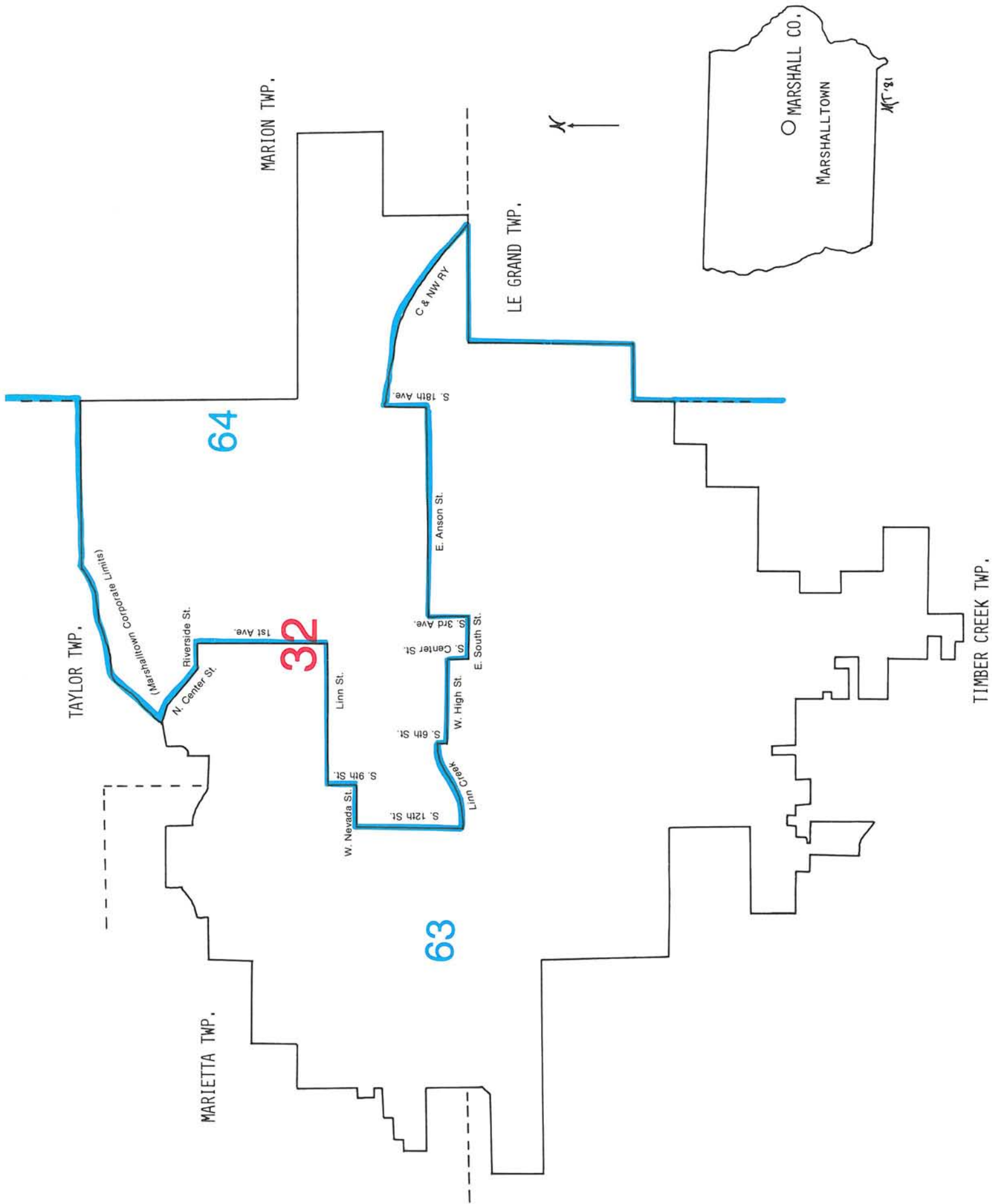
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TABLE MOUND TWP.

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MARION TWP.

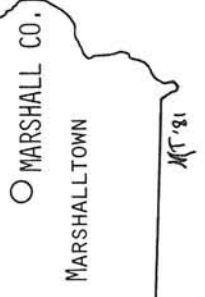
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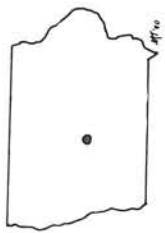
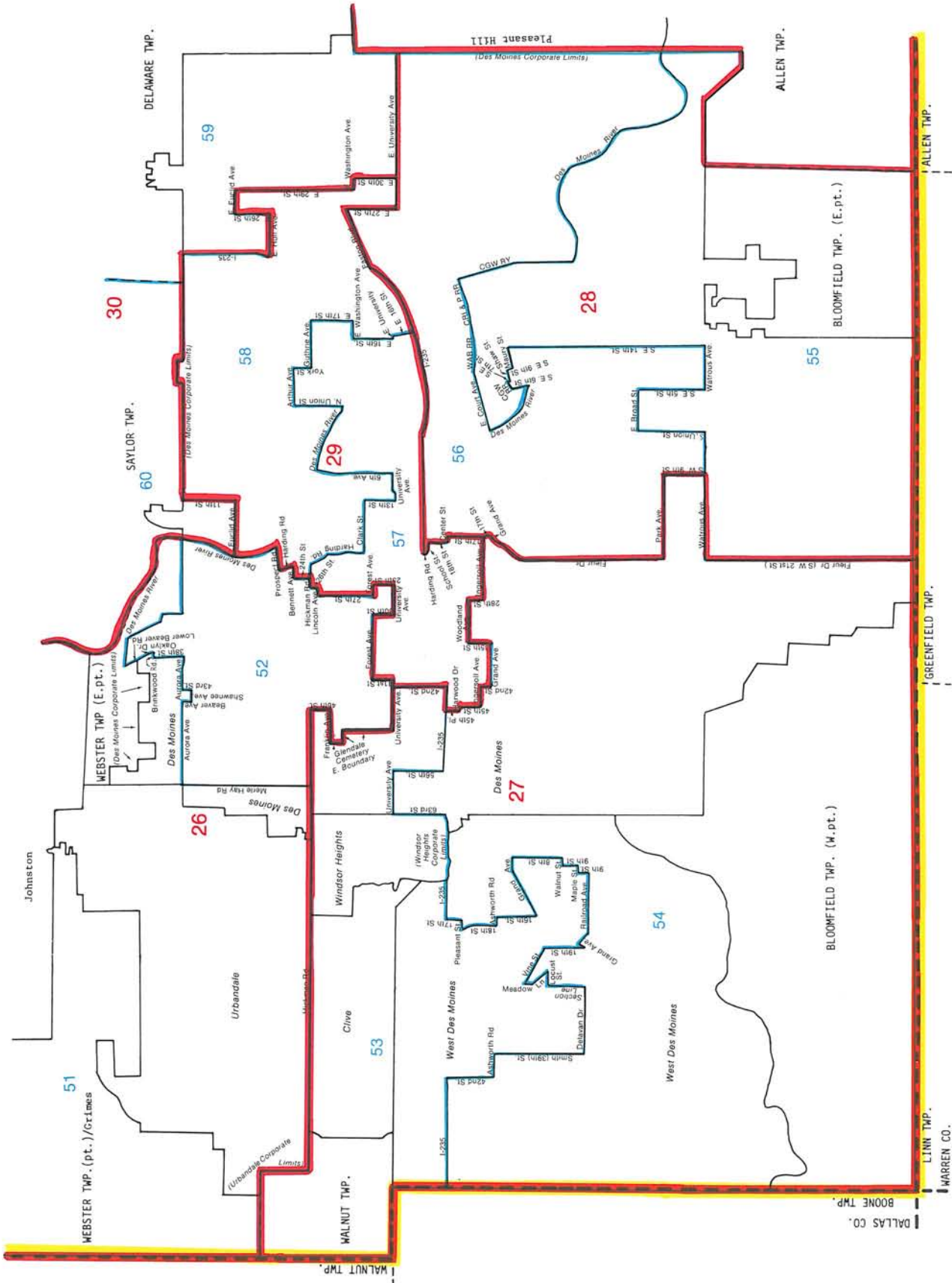
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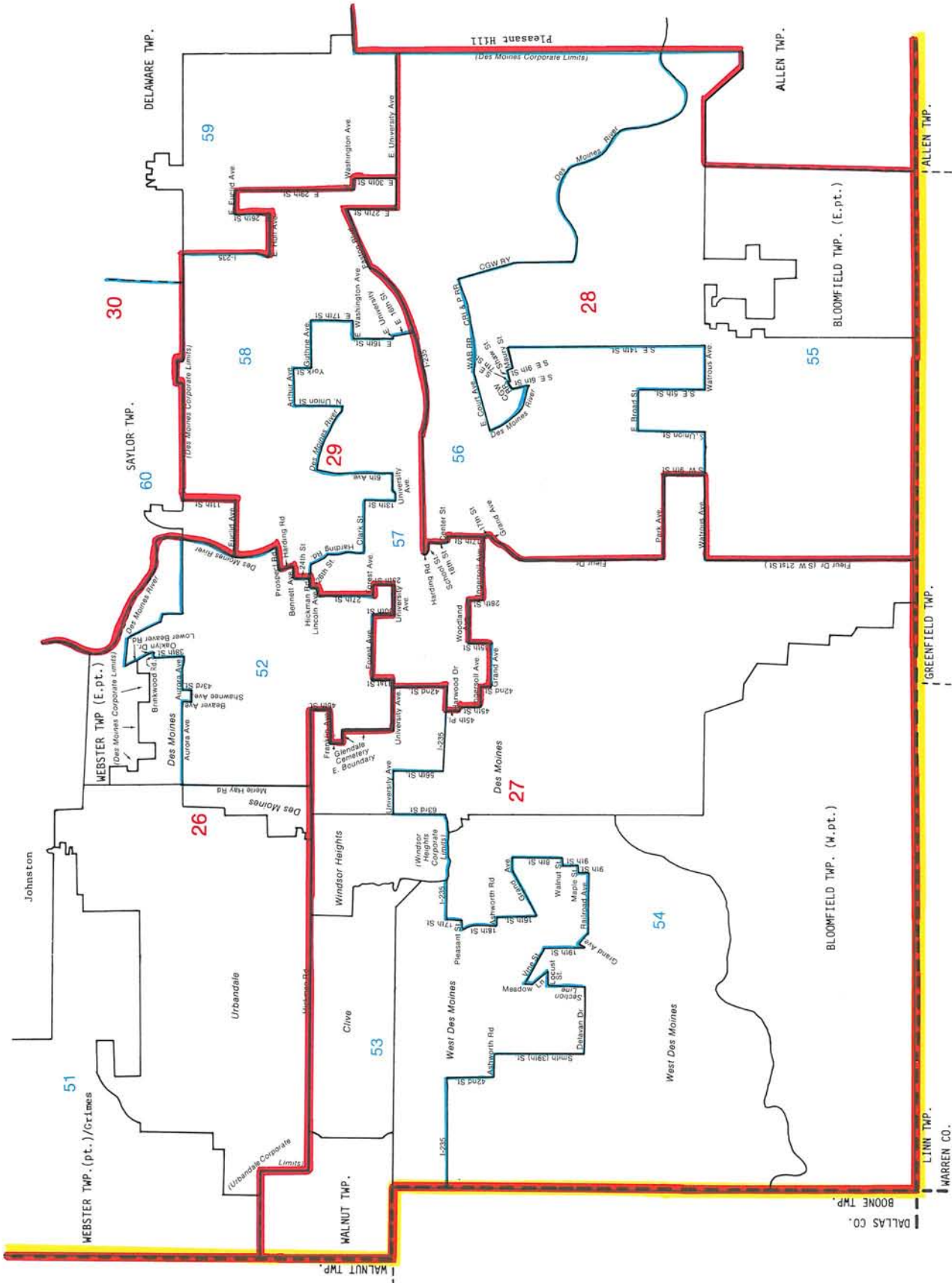
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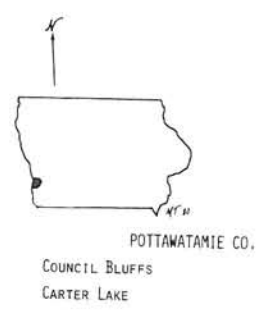
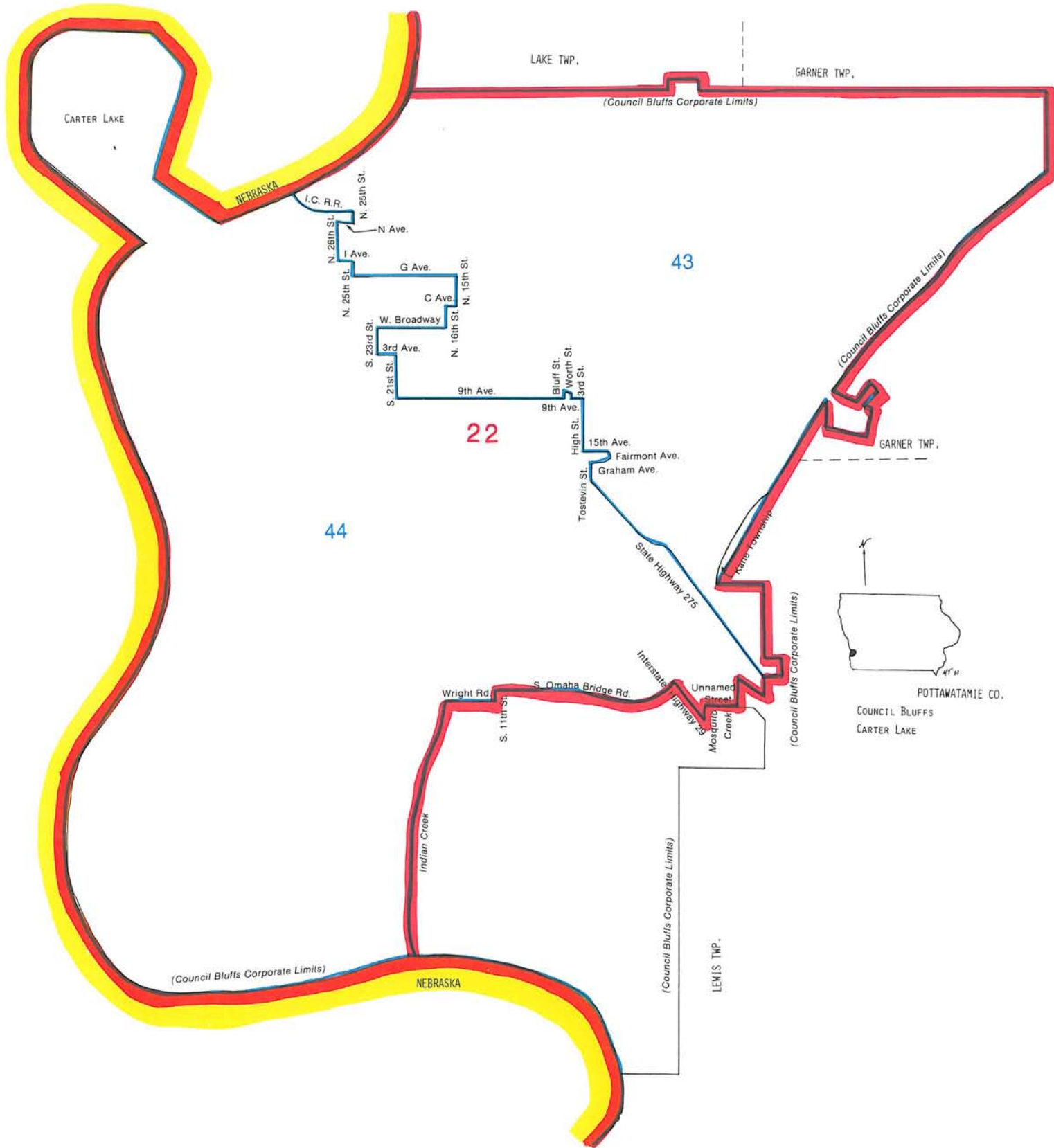
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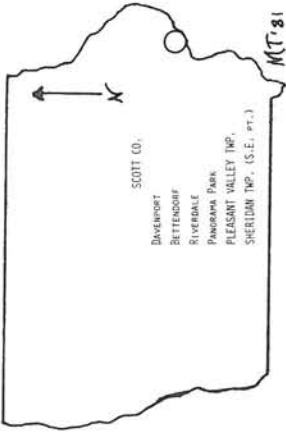
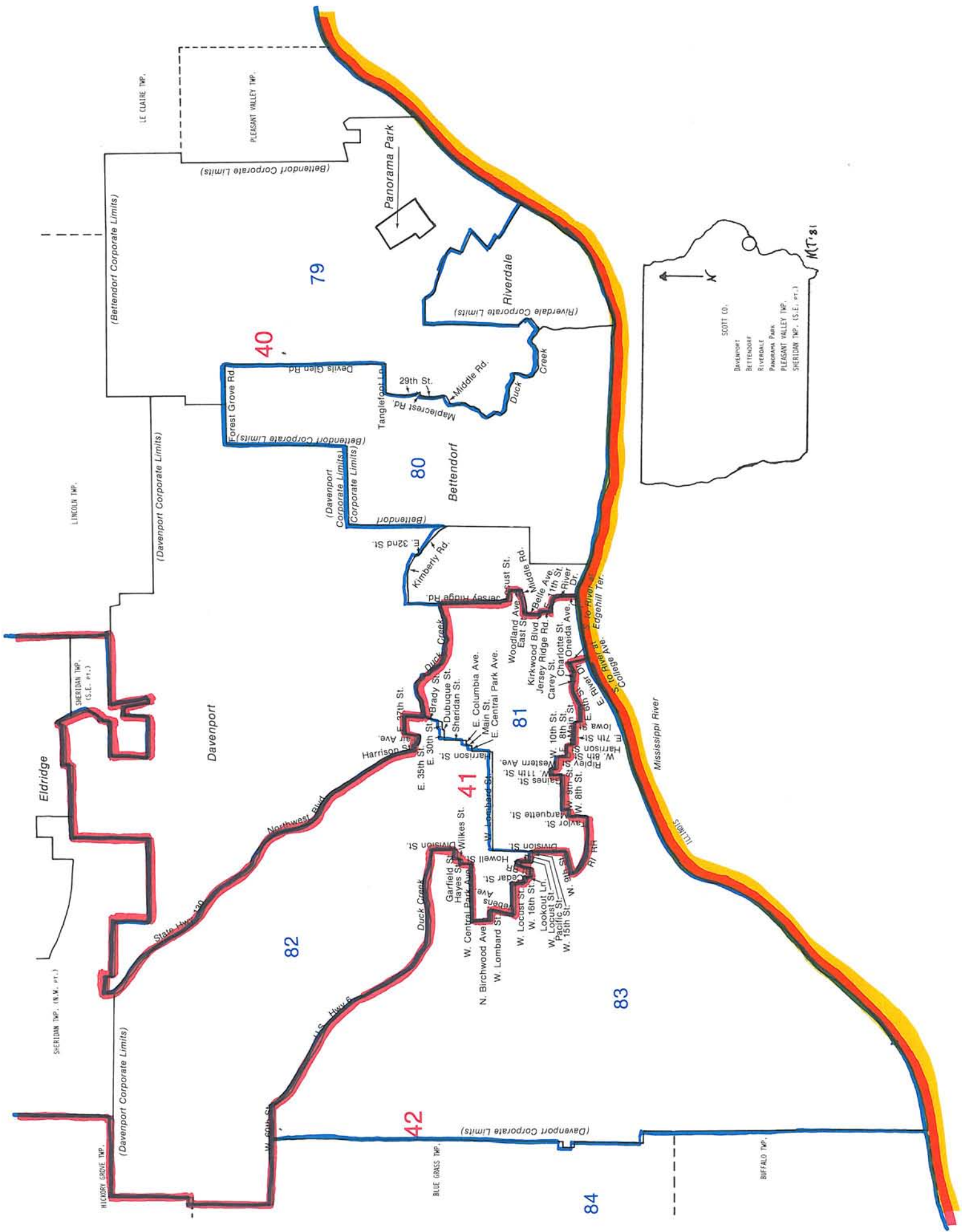




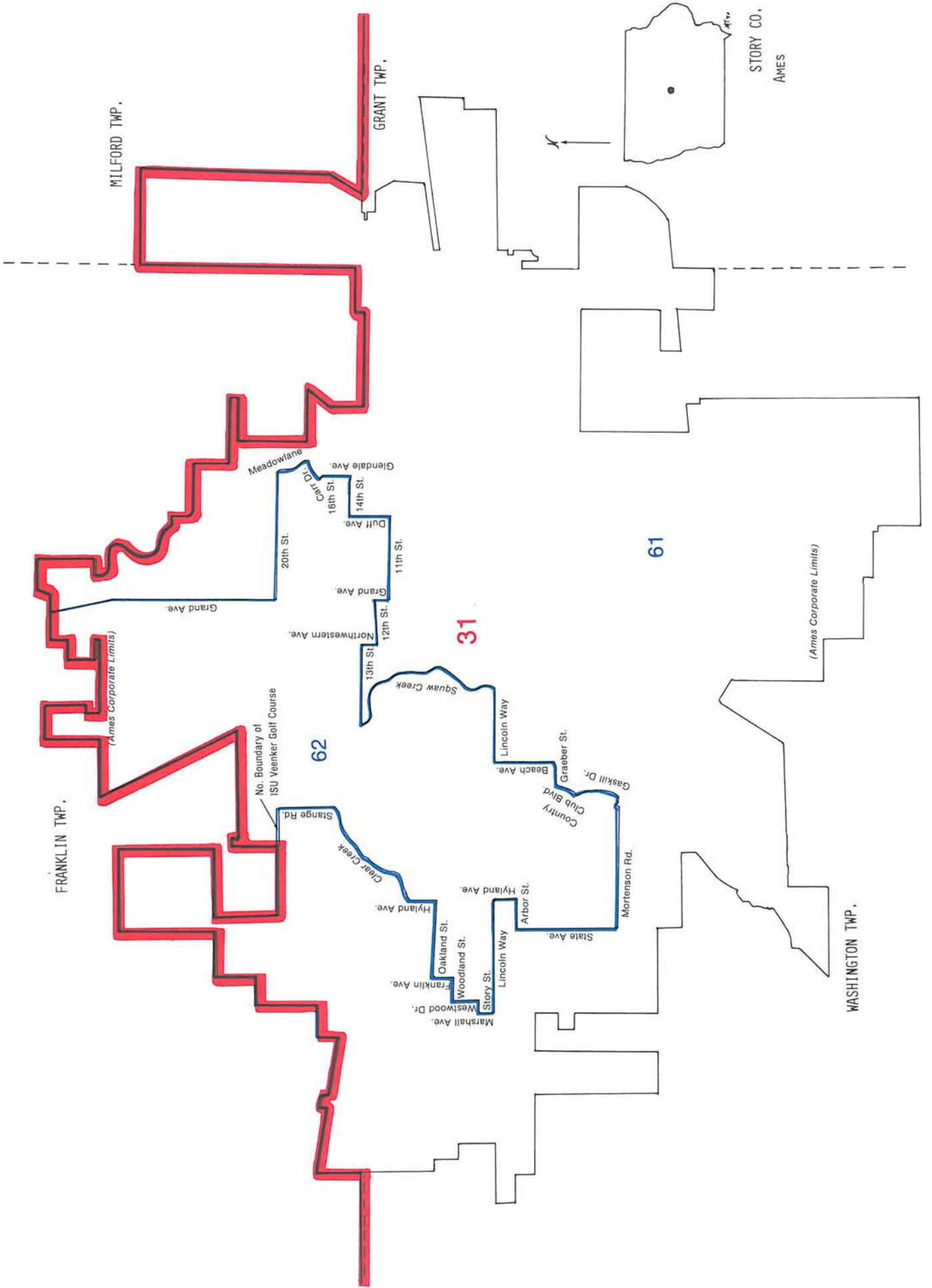
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 Urbandale
 Windsor Heights
 Clive
 West Des Moines
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 BLOOMFIELD TWP. (E. pt.)
 WEBSTER TWP. (E. pt.)

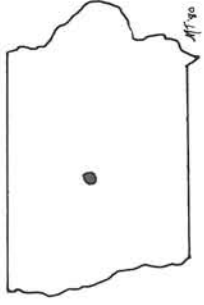




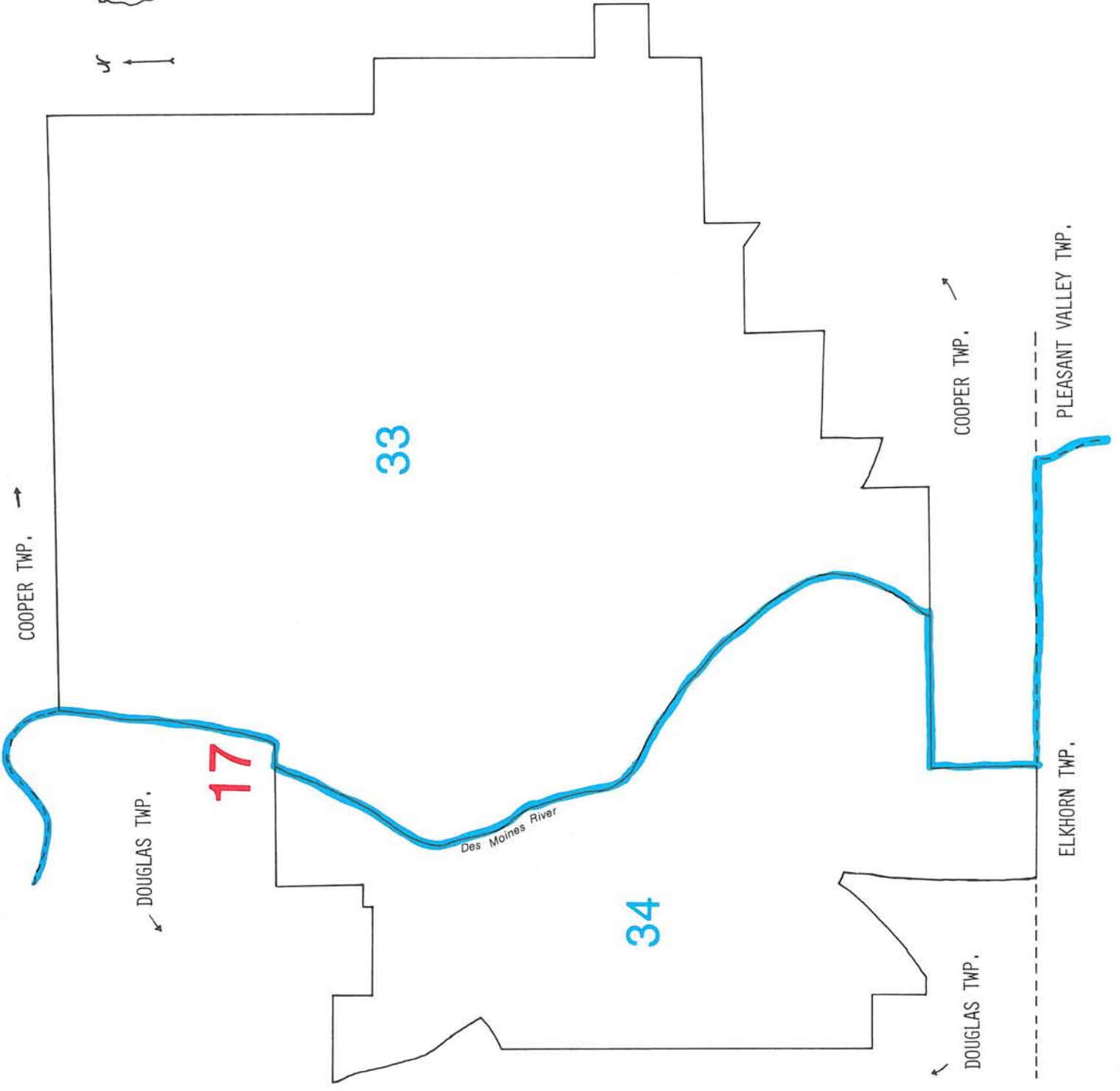


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WEBSTER CO.
FORT DODGE



COOPER TWP. →

← DOUGLAS TWP.

17

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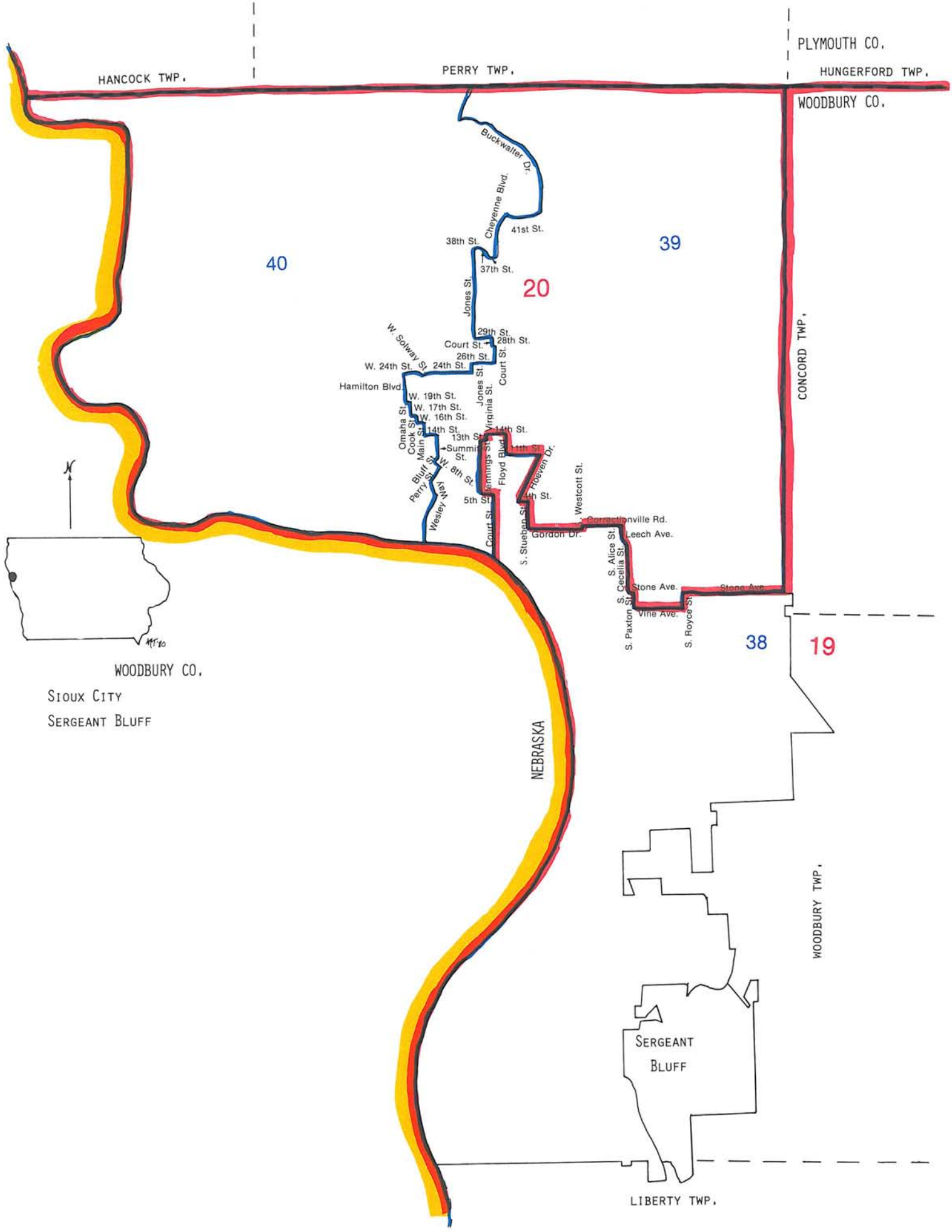
Des Moines River

← COOPER TWP.

← DOUGLAS TWP.

ELKHORN TWP.

PLEASANT VALLEY TWP.



HANCOCK TWP.

PERRY TWP.

PLYMOUTH CO.

HUNGERFORD TWP.

WOODBURY CO.

40

39

20

CONCORD TWP.



WOODBURY CO.

SIoux CITY
SERGEANT BLUFF

NEBRASKA

38

19

WOODBURY TWP.

SERGEANT
BLUFF

LIBERTY TWP.

Buckwaller Dr.
Cheyenne Blvd.
41st St.
38th St.
37th St.
Jones St.
29th St.
28th St.
Court St.
26th St.
W. 24th St.
24th St.
Hamilton Blvd.
W. 19th St.
W. 17th St.
W. 16th St.
W. 14th St.
13th St.
Summit St.
W. 8th St.
5th St.
Court St.
S. Stueben St.
Floyden Dr.
Westcott St.
S. Alice St.
S. Cecelia St.
S. Paxton St.
S. Royce St.
Stone Ave.
Vine Ave.
Leach Ave.
Gordon Dr.
Sergeant Bluff

PROPOSED CONGRESSIONAL

TOTAL STATE POPULATION # 2913387
 IDEAL DISTRICT POPULATION # 485564

PERCENT
 DEVIATION
 FROM IDEAL
 0.011

DISTRICT
 NUMBER
 1

DISTRICT
 POPULATION
 485615

DEVIATION
 FROM IDEAL
 51

0.099

481

486045

-0.030

-145

485419

-0.087

-422

485142

-0.000

-2

485562

0.008

40

485604

POPULATION
 DISPERSION
 COMPACTNESS
 .7817

LENGTH-WIDTH
 COMPACTNESS
 RATIO
 1.910

LENGTH-WIDTH
 COMPACTNESS
 3.730

POPULATION CENTER
 Y
 5.608

GEOGRAPHIC CENTER
 Y
 4.088

DISTRICT
 NUMBER
 1

.7307

1.276

1.980

9.419

11.123

2

.9128

1.017

0.130

11.552

12.221

3

.4956

1.082

0.400

5.476

3.948

4

.9503

1.403

2.900

5.010

4.043

5

.9699

1.299

2.290

11.878

12.283

6

POPULATION VARIANCE RATIO # 1.0019

TOTAL LENGTH-WIDTH COMPACTNESS # 11.4300

AVERAGE LENGTH-WIDTH COMPACTNESS RATIO # 1.3313

AVERAGE POPULATION DISPERSION COMPACTNESS # 0.8068

AVERAGE PERCENT POPULATION DEVIATION FROM IDEAL # 0.0392

PROPOSED SENATE PLAN 4-81

POPULATION VARIANCE RATIO = 1.0046

TOTAL LENGTH-WIDTH COMPACTNESS = 122.670

AVERAGE LENGTH-WIDTH COMPACTNESS RATIO = 1.4422

AVERAGE POPULATION DISPERSION COMPACTNESS = 0.9401

AVERAGE PERCENT POPULATION DEVIATION FROM IDEAL = 0.0612

PROPOSED SENATE PLAN 4-81

TOTAL STATE POPULATION = 2913387
 IDEAL DISTRICT POPULATION = 58268

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
1	58241	-27	-0.046
2	58214	-54	-0.093
3	58233	-35	-0.060
4	58273	5	0.009
5	58236	-32	-0.055
6	58208	-60	-0.103
7	58252	-16	-0.027
8	58247	-21	-0.036
9	58261	-7	-0.012
10	58244	-24	-0.041
11	58270	2	0.003
12	58169	-99	-0.170
13	58277	9	0.015
14	58234	-34	-0.058
15	58250	-18	-0.031
16	58228	-40	-0.069
17	58257	-11	-0.019
18	58247	-21	-0.036
19	58190	-78	-0.134
20	58347	79	0.136

PROPOSED SENATE PLAN 4-81

TOTAL STATE POPULATION = 2913387
 IDEAL DISTRICT POPULATION = 58268

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
21	58328	60	0.103
22	58325	57	0.098
23	58292	24	0.041
24	58279	11	0.019
25	58271	3	0.005
26	58229	-39	-0.067
27	58268	0	0.0
28	58239	-24	-0.050
29	58400	132	0.227
30	58246	-22	-0.038
31	58306	38	0.065
32	58265	-3	-0.005
33	58263	-5	-0.009
34	58247	-21	-0.036
35	58285	17	0.029
36	58221	-47	-0.081
37	58365	97	0.166
38	58290	22	0.038
39	58321	53	0.091
40	58280	12	0.021

PROPOSED SENATE PLAN 4-81

TOTAL STATE POPULATION = 2913387
 IDEAL DISTRICT POPULATION = 58268

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
41	58254	-14	-0.024
42	58261	13	0.022
43	58292	24	0.041
44	58347	79	0.136
45	58131	-137	-0.235
46	58285	17	0.029
47	58272	4	0.007
48	58264	-4	-0.007
49	58336	68	0.117
50	58327	59	0.101

PROPOSED SENATE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
1	4.966	9.292	5.069	8.706	4.190	1.604	.9712
2	10.839	3.485	11.585	3.697	9.110	2.205	.9760
3	14.528	11.421	14.679	11.538	4.350	1.443	.9979
4	22.630	4.001	22.189	3.861	4.230	1.544	.9770
5	33.158	8.226	33.178	8.079	4.320	1.434	.9991
6	36.849	4.825	36.846	5.044	2.120	1.380	.9867
7	44.605	6.014	44.718	6.720	1.320	1.124	.9708
8	50.663	5.298	51.282	6.090	0.520	1.047	.9517
9	57.389	9.601	57.402	9.916	8.350	2.006	.9963
10	64.684	14.669	64.824	14.750	1.210	1.647	.9334
11	62.516	18.073	62.618	17.457	1.550	1.208	.9702
12	49.791	18.460	50.083	18.111	2.510	1.289	.9870
13	46.462	15.741	46.477	15.641	0.380	1.128	.9884
14	46.250	14.760	46.221	14.788	0.260	1.136	.9968
15	42.578	12.740	43.494	13.165	1.730	1.233	.8974
16	33.731	17.718	34.290	17.715	2.140	1.247	.9797
17	26.295	13.602	26.513	14.205	4.930	1.873	.9302
18	20.960	19.032	20.759	19.561	1.800	1.177	.9793
19	7.330	18.307	5.868	17.073	4.220	1.459	.8361
20	2.568	14.458	2.595	14.444	0.250	1.229	.9952

PROPOSED SENATE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
21	11.164	25.867	10.813	26.947	3.560	1.327	.9545
22	7.803	32.860	7.767	32.847	0.370	1.407	.9915
23	13.566	38.551	13.300	38.345	0.820	1.089	.9926
24	19.233	33.719	18.464	32.538	3.590	1.280	.9402
25	24.772	25.076	26.322	24.314	6.730	1.689	.8924
26	32.598	27.692	32.575	27.768	1.270	2.427	.9631
27	32.473	28.380	32.466	28.370	0.180	1.166	.9988
28	33.246	28.665	33.253	28.693	0.370	1.569	.9937
29	33.131	28.077	33.123	28.083	0.290	1.547	.9988
30	33.277	26.612	33.513	27.090	1.450	1.580	.7726
31	32.338	22.035	32.510	21.844	0.410	1.108	.9498
32	41.069	21.065	41.137	21.382	1.780	1.278	.9785
33	37.894	27.059	38.312	27.782	3.090	1.515	.9242
34	49.897	27.009	50.043	27.096	7.500	2.304	.9988
35	56.020	27.598	55.980	27.469	1.700	1.586	.9686
36	54.472	23.084	54.277	22.922	1.890	1.808	.9624
37	54.249	22.309	54.234	22.287	0.090	1.101	.9936
38	54.755	20.626	54.624	21.093	0.520	1.138	.8864
39	68.503	22.716	68.898	23.452	0.440	1.068	.9142
40	67.514	27.657	67.287	28.003	2.610	1.926	.8362

PROPOSED SENATE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
41	66.498	28.158	66.407	28.244	0.490	1.308	.9361
42	65.194	26.716	65.725	27.394	1.520	1.287	.8643
43	60.581	27.265	60.930	28.439	2.750	1.437	.8451
44	59.660	36.511	59.919	37.935	4.150	1.741	.8226
45	54.587	41.221	56.530	42.757	2.260	1.270	.6504
46	51.806	34.381	52.655	34.843	0.280	1.027	.9406
47	44.157	39.656	44.922	38.419	2.500	1.379	.8266
48	42.538	33.871	41.884	33.503	2.970	1.348	.9584
49	30.746	38.887	30.554	38.211	4.250	1.419	.9825
50	30.975	30.989	31.489	30.522	3.350	1.548	.9493

PROPOSED HOUSE PLAN 4-81

POPULATION VARIANCE RATIO = 1.0092

TOTAL LENGTH-WIDTH COMPACTNESS = 183.370

AVERAGE LENGTH-WIDTH COMPACTNESS RATIO = 1.5354

AVERAGE POPULATION DISPERSION COMPACTNESS = 0.9382

AVERAGE PERCENT POPULATION DEVIATION FROM IDEAL = 0.0975

PROPOSED HOUSE PLAN 4-81

TOTAL STATE POPULATION = 2913387
 IDEAL DISTRICT POPULATION = 29134

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
1	29136	2	0.007
2	29105	-29	-0.100
3	29110	-24	-0.082
4	29104	-30	-0.103
5	29100	-34	-0.117
6	29133	-1	-0.003
7	29115	-19	-0.065
8	29158	24	0.082
9	29084	-50	-0.172
10	29152	18	0.062
11	29026	-108	-0.371
12	29182	48	0.165
13	29133	-1	-0.003
14	29119	-15	-0.051
15	29172	38	0.130
16	29075	-59	-0.203
17	29105	-29	-0.100
18	29156	22	0.076
19	29118	-16	-0.055
20	29126	-8	-0.027

PROPOSED HOUSE PLAN 4-81

TOTAL STATE POPULATION = 2913387
 IDEAL DISTRICT POPULATION = 24134

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
21	29154	20	0.069
22	29116	-18	-0.062
23	29143	9	0.031
24	29026	-108	-0.371
25	29135	1	0.003
26	29142	8	0.027
27	29122	-12	-0.041
28	29112	-22	-0.076
29	29090	-44	-0.151
30	29160	26	0.089
31	29108	-26	-0.089
32	29120	-14	-0.048
33	29134	0	0.0
34	29123	-11	-0.038
35	29107	-27	-0.093
36	29140	6	0.021
37	29042	-92	-0.316
38	29148	14	0.048
39	29165	31	0.106
40	29182	48	0.165

PROPOSED HOUSE PLAN 4-81

TOTAL STATE POPULATION = 2913387
 IDEAL DISTRICT POPULATION = 29134

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
41	29173	39	0.134
42	29155	21	0.072
43	29178	44	0.151
44	29147	13	0.045
45	29136	2	0.007
46	29156	22	0.076
47	29120	-14	-0.048
48	29159	25	0.086
49	29162	28	0.096
50	29109	-25	-0.086
51	29092	-42	-0.144
52	29137	3	0.010
53	29132	-2	-0.007
54	29136	2	0.007
55	29144	10	0.034
56	29095	-39	-0.134
57	29189	55	0.189
58	29211	77	0.264
59	29134	0	0.0
60	29112	-22	-0.076

PROPOSED HOUSE PLAN 4-81

TOTAL STATE POPULATION = 2913367
 IDEAL DISTRICT POPULATION = 29134

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
61	29160	26	0.089
62	29146	12	0.041
63	29155	21	0.072
64	29110	-24	-0.082
65	29110	-24	-0.082
66	29153	19	0.065
67	29147	13	0.045
68	29100	-34	-0.117
69	29101	-33	-0.113
70	29184	50	0.172
71	29129	-5	-0.017
72	29092	-42	-0.144
73	29290	156	0.535
74	29075	-59	-0.203
75	29153	19	0.065
76	29137	3	0.010
77	29196	62	0.213
78	29125	-9	-0.031
79	29146	14	0.048
80	29132	-2	-0.007

PROPOSED HOUSE PLAN 4-81

TOTAL STATE POPULATION = 291387
 IDEAL DISTRICT POPULATION = 29134

DISTRICT NUMBER	DISTRICT POPULATION	DEVIATION FROM IDEAL	PERCENT DEVIATION FROM IDEAL
81	29105	-29	-0.100
82	29149	15	0.051
83	29116	-18	-0.062
84	29165	31	0.106
85	29143	9	0.031
86	29149	15	0.051
87	29180	46	0.156
88	29167	33	0.113
89	29109	-25	-0.086
90	29022	-112	-0.384
91	29130	-4	-0.014
92	29155	21	0.072
93	29161	27	0.093
94	29111	-23	-0.079
95	29091	-43	-0.146
96	29173	39	0.134
97	29158	24	0.082
98	29178	44	0.151
99	29166	32	0.110
100	29161	27	0.093

PROPOSED HOUSE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
1	4.619	6.264	5.037	6.146	1.940	1.461	.9599
2	5.221	11.505	5.101	11.268	0.020	1.003	.9887
3	7.660	1.862	8.017	2.293	9.970	3.351	.9767
4	14.564	5.386	15.153	5.102	2.600	1.406	.9370
5	11.831	11.589	11.831	11.459	2.100	1.272	.9983
6	16.394	11.161	17.524	11.618	4.680	2.106	.8936
7	18.870	3.658	19.051	2.994	2.700	1.556	.9332
8	24.889	4.179	25.322	4.726	0.560	1.072	.9476
9	31.996	4.398	32.221	4.597	3.920	1.715	.9904
10	34.161	11.532	34.134	11.554	3.030	1.466	.9999
11	36.873	3.574	37.039	4.250	0.330	1.064	.8696
12	36.819	6.360	36.655	5.833	1.680	1.431	.8932
13	42.048	3.346	42.304	4.675	2.090	1.383	.7790
14	47.254	8.778	47.134	8.765	3.170	1.758	.9980
15	49.582	2.589	50.653	2.755	6.180	2.248	.8845
16	52.002	8.658	51.914	9.435	4.150	2.078	.9265
17	56.664	5.870	56.617	5.969	6.480	2.178	.9991
18	58.225	13.896	58.186	13.856	1.600	1.232	.9996
19	64.499	14.465	64.734	14.546	1.310	1.740	.9050
20	64.946	14.958	64.914	14.954	0.070	1.143	.9790

PROPOSED HOUSE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
21	63.480	15.648	63.821	15.558	3.440	2.349	.9684
22	61.988	19.402	61.413	19.359	3.800	1.731	.9716
23	51.084	15.157	50.853	15.022	1.710	1.377	.9836
24	48.695	21.262	49.311	21.213	1.280	1.229	.9468
25	46.945	15.980	46.926	15.919	0.860	1.497	.9951
26	45.949	15.488	46.028	15.364	0.680	1.362	.9440
27	46.806	14.862	46.757	14.908	0.900	1.891	.9751
28	45.664	14.654	45.685	14.667	0.090	1.092	.9965
29	41.897	10.772	43.184	11.238	0.800	1.140	.7550
30	43.344	14.954	43.804	15.087	2.320	1.611	.9515
31	36.208	19.105	35.667	19.665	1.000	1.155	.9333
32	31.654	16.555	32.914	15.765	4.970	2.268	.8228
33	27.057	14.754	26.865	14.776	1.160	1.690	.9022
34	26.077	13.273	26.161	13.633	4.930	1.873	.9861
35	20.956	17.328	20.822	17.195	0.620	1.065	.9970
36	20.970	22.302	20.697	21.925	4.730	2.121	.9720
37	8.288	18.983	8.652	18.794	4.170	1.484	.9894
38	3.182	15.378	3.095	15.359	1.320	2.031	.9766
39	2.844	14.464	2.867	14.440	0.470	1.758	.9929
40	2.331	14.454	2.324	14.449	0.020	1.026	.9993

PROPOSED HOUSE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
41	12.335	22.980	12.575	23.050	2.740	1.336	.9942
42	9.348	30.345	9.049	30.846	0.400	1.067	.9522
43	8.033	32.798	8.057	32.788	0.290	1.558	.9914
44	7.527	32.935	7.476	32.906	0.200	1.303	.9676
45	13.220	35.947	12.978	36.117	5.200	2.130	.9923
46	13.834	40.570	13.621	40.572	4.620	1.875	.9951
47	14.914	29.840	15.303	29.830	0.690	1.106	.9785
48	21.461	35.719	21.622	35.244	5.600	1.737	.9881
49	21.823	26.661	23.102	26.190	6.430	2.334	.8924
50	28.984	22.812	29.548	22.436	1.550	1.244	.9315
51	32.410	27.405	32.383	27.581	1.120	2.418	.8305
52	32.761	27.942	32.767	27.954	0.130	1.419	.9931
53	32.352	28.192	32.357	28.206	0.350	1.795	.9957
54	32.586	28.555	32.575	28.533	0.250	1.342	.9950
55	33.191	28.915	33.199	28.944	0.190	1.352	.9834
56	33.295	28.449	33.307	28.442	0.020	1.032	.9973
57	33.013	28.193	32.992	28.205	0.250	1.833	.9858
58	33.249	27.960	33.255	27.961	0.240	1.727	.9991
59	33.754	27.868	33.826	27.803	0.250	1.490	.9140
60	33.009	25.905	33.199	26.377	1.590	1.772	.7057

PROPOSED HOUSE PLAN 4-81

DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
61	32.119	22.484	32.372	22.293	0.480	1.129	.9524
62	32.660	21.377	32.649	21.395	0.070	1.143	.9903
63	39.334	21.317	39.881	21.559	0.390	1.111	.8185
64	42.482	20.861	42.395	21.206	1.200	1.231	.9739
65	37.298	26.785	36.743	27.274	4.940	2.190	.9300
66	40.194	26.116	39.878	28.289	1.480	1.525	.9707
67	46.817	26.737	45.986	26.645	3.950	2.039	.9348
68	53.647	27.341	54.107	27.549	1.100	1.191	.9559
69	56.177	27.867	56.146	27.867	1.700	1.586	.9581
70	55.825	27.262	55.814	27.272	0.150	1.312	.9958
71	54.977	23.424	54.913	23.293	2.030	1.923	.9900
72	53.685	22.557	53.641	22.552	0.210	1.429	.9728
73	54.065	22.280	54.048	22.256	0.380	1.826	.9886
74	54.417	22.335	54.422	22.318	0.390	1.736	.9959
75	54.662	21.761	54.538	21.729	0.490	1.803	.9074
76	54.804	20.025	54.710	20.456	1.140	1.361	.9323
77	67.558	21.605	67.676	22.132	0.230	1.038	.9649
78	70.175	24.683	70.123	24.776	0.310	1.256	.9689
79	67.749	26.936	67.391	27.618	1.600	1.567	.6936
80	67.239	28.498	67.184	28.389	0.220	1.216	.8467

PROPOSED HOUSE PLAN 4-81

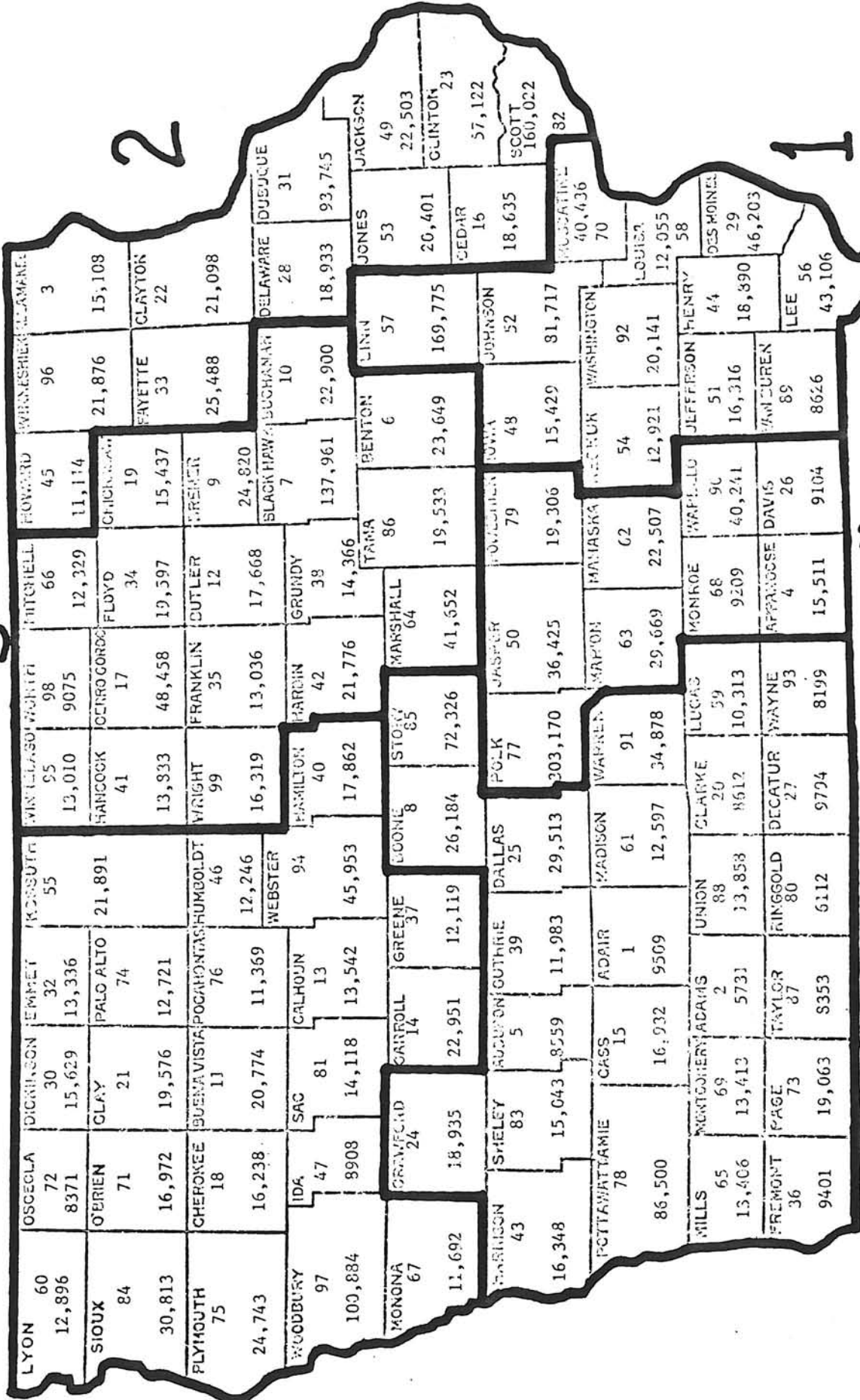
DISTRICT NUMBER	GEOGRAPHIC CENTER X	GEOGRAPHIC CENTER Y	POPULATION CENTER X	POPULATION CENTER Y	LENGTH-WIDTH COMPACTNESS X	LENGTH-WIDTH COMPACTNESS Y	LENGTH-WIDTH COMPACTNESS RATIO	POPULATION DISPERSION COMPACTNESS
81	66.558	28.491	66.561	28.491	0.220	0.220	1.846	.9997
82	66.432	27.792	66.254	27.998	0.330	0.330	1.208	.7790
83	66.120	28.676	66.086	28.653	0.040	0.040	1.051	.9855
84	64.773	25.825	65.364	26.138	1.520	1.520	1.287	.9296
85	60.023	25.871	60.147	26.495	3.820	3.820	1.730	.9437
86	61.772	30.241	61.713	30.382	1.340	1.340	1.568	.9708
87	59.343	34.893	59.502	35.936	3.290	3.290	1.587	.9079
88	60.335	39.963	60.337	39.935	0.170	0.170	1.173	.9933
89	56.902	40.485	57.670	41.352	0.200	0.200	1.038	.7592
90	52.798	41.790	55.387	44.166	0.590	0.590	1.080	.4938
91	52.957	37.061	53.513	37.056	4.030	4.030	1.944	.9573
92	51.039	32.594	51.798	32.633	3.050	3.050	1.508	.9518
93	43.658	40.315	43.562	40.236	2.890	2.890	1.465	.9984
94	46.428	36.652	46.284	36.600	0.600	0.600	1.706	.8853
95	44.417	33.238	44.298	33.271	1.780	1.780	1.278	.9975
96	39.876	34.769	39.477	33.735	1.300	1.300	1.198	.8671
97	34.190	39.672	34.205	39.404	1.200	1.200	1.155	.9948
98	26.934	38.019	26.906	37.020	0.650	0.650	1.071	.9239
99	29.687	31.055	29.514	30.509	3.200	3.200	1.524	.9633
100	34.088	30.831	33.463	30.535	0.730	0.730	1.217	.7758

ADDITION TO ERRATA SHEET FOR CONGRESSIONAL AND LEGISLATIVE
REDISTRICTING

Congressional district numbers in yellow labeled 5 and 6 are wrong on the large colored map. District number 6 should be 5 and 5 should be 6. The references in the bill are correct.

LEGISLATIVE SERVICE BUREAU

6 OFFICIAL 1980 IOWA CENSUS DATA 3



ERRATA

The preparation of the maps involved very detailed work. In some instances information which the Legislative Service Bureau had available relating to streets, landmarks, and similar identifiers within political subdivisions was inaccurate or at least vague. In other instances a person had to be very familiar with a city to know about local situations such as half blocks, or streets where names changed. In a few cases there were printer errors. The large state map contains an error in Worth County noted below that is solely an error of the Bureau. These errors were not discovered until the bill draft was prepared describing the districts and it was then too late to make new maps and have them available on a timely basis. The bill corrects all of the errors noted below. The Bureau regrets these errors.

STATE MAP:

In Worth county, Hartland and Grove townships are included in the eleventh representative district, and the sixth senatorial district.

METROPOLITAN AREA MAPS:

Black Hawk County:

- (1) The street connecting Belmont avenue and Leeland avenue is University avenue.
- (2) West Mullen avenue should have been labeled West Mullan avenue.

Dubuque county:

- (1) Arrow from East Seventeenth street should have pointed east of Central avenue rather than west of Central avenue.
- (2) The street connecting Kerper boulevard and Lake Peosta channel is East Sixteenth street (and its extension).

Linn county:

- (1) The street connecting First avenue east and the Chicago, Milwaukee, St. Paul and Pacific railroad track is Thirty-second street drive southeast.
- (2) Hawthorne drive should have been labeled Hawthorn drive southwest.
- (3) Southwest Wilson avenue southwest should have been labeled Wilson avenue southwest.

Polk county:

- (1) The Chicago, Rock Island and Pacific railroad track connects the Des Moines river and the Wabash railroad track, instead of the Chicago Northwestern Transportation Company railroad track.
- (2) The reference to the Chicago, Rock Island and Pacific railroad track along the Wabash railroad track should be deleted.
- (3) The railroad track connecting Southeast Sixth street and Southeast Seventh street should have been labeled as the Chicago Northwestern Transportation Company railroad track instead of the Chicago Great Western railroad track.

Pottawattamie county:

(1) State highway 275 should have been labeled state highway 375.

(2) South Omaha Bridge road is referred to in the bill as U.S. highway 275, both are correct.

Scott county:

(1) East Columbia avenue, East Central Park avenue, East Eighth street, and East Seventh street should have been labeled West Columbia avenue, West Central Park avenue, West Eighth street, and West Seventh street, respectively.

(2) River drive, lying south of East Eleventh street should have been labeled River street.

Woodbury county:

The road connecting Buckwalter drive to the north corporate limit of the city of Sioux City is Perry Creek road.