

THIRD-ORDER LEVELS
SEA LEVEL DATUM OF 1929

Woodbury, Monona, Ida and
Crawford Counties

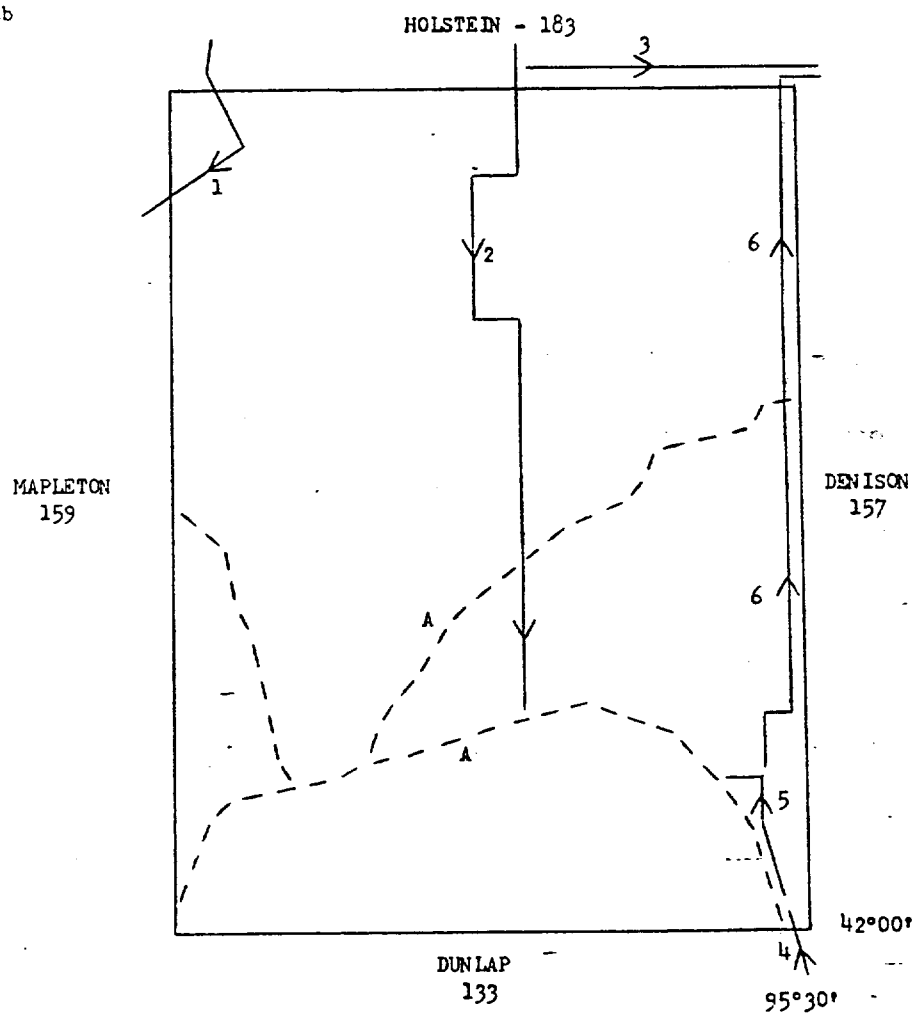
Final Adjustment of 1971,
except as noted

Edition of: 11-8-71

PR: AKH/PH/cb

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CHARTER OAK QUADRANGLE
158 - IOWA
N4200-W9530/15
DIAGRAM NK 15-4
FT. DODGE



N.G.S. VERTICAL CONTROL DATA

A. Quadrangle No. 420953

2
CHARTER OAK QUADRANGLE
158 - IOWA

FEET

LINE 1

J.H. Tyndale, 1968; Book CV-2324

HOLSTEIN QUAD. - 183

- | | | |
|-----------|---|----------|
| 1 35 17.0 | Danbury, 2.5 mi N. and 1.0 mi W. of; 320 ft S., 36 ft E. and 14.7 ft lower than T-rd. S., quarter cor. secs. 9 and 16, T. 86 N., R. 41 W.; 5.5 ft S. of steel witness sign; 1 ft W. of E. right-of-way fence, on 10 ft copper coated steel rod inside 6-in. concrete tile; standard tablet stamped "28 T 1968 1314" | 1314.324 |
| 36 18.8 | UE, center of T-rd. N. (Co. Hwy. "B" W. and ESE.), near quarter cor. secs. 16 and 21, T. 86 N., R. 41 W., copper nail and washer, painted "UE Centerline" | 1269.2 |

CHARTER OAK QUAD. - 158

- | | | |
|---------|---|----------|
| 37 19.1 | UE, center of Co. Hwy. "B" at E.-W. fence, near N. limits of Danbury, cor. secs. 21, 22, 27 and 28, T. 86 N., R. 41 W., copper nail and washer, painted "UE Centerline" | 1182.6 |
| 38 19.9 | Center of cross streets in Danbury (no street names), 205 ft N. of post office | 1161.9 |
| 38 19.9 | Reference mark, 171 ft N. of tablet; 32 ft S., 32 ft W. of cross streets; top of water hydrant | 1163.82 |
| 39 19.9 | In Danbury; in NW $\frac{1}{2}$ sec. 27, T. 86 N., R. 41 W.; 205 ft S., 42 ft W. and 0.2 ft lower than cross streets (no street names); 7.5 ft E. of E. face post office 14 ft W. of curbing; 6 ft SSW. of mail box; 3 ft E. of steel flagpole; on 13 ft copper coated rod inside 6-in. tile and 1-in. below lawn surface; standard tablet stamped "29 T 1968 1162" | 1161.655 |
| 40 20.5 | UE, center of Iowa 175 at N.-S. fence (W. city limit of Danbury), $\pm$ 500 N. of S. sixteenth cor. secs. 27 and 28, T. 86 N., R. 41 W.; copper nail and washer, painted square, painted "UE Centerline" | 1146.6 |

MAPLETON QUAD. - 159

- | | | |
|---------|---|----------|
| 41 21.9 | UE, center of T-rd. NW. and W. (Iowa 175 NE.-SW.), quarter cor. secs. 32 and 33, T. 86 N., R. 41 W.; copper nail and washer, painted square, painted "UE Centerline" | 1143.29 |
| 42 23.0 | Mapleton, 3.25 mi N. and 1.5 mi E. of; 60 ft SE. (right angle) center of Iowa Hwy. 175; 80 ft SW. along hwy. from rd. N. and 4 ft lower; 15 ft NE. along hwy. from T-fence E. and steel witness sign; 1 ft NW. of SE. right-of-way fence, on 10 ft copper coated steel rod inside 6-in. concrete tile; standard tablet stamped "30 T 1968 1144" | 1143.672 |

LINE 2

J.H. Tyndale, 1968; Book CV-2324

HOLSTEIN QUAD. - 183

- | | | |
|---------|--|----------|
| 2 1 0.0 | Battle Creek, 4.0 mi S. and 0.5 mi W. from; T. 86 N., R. 41 W.; near cor. secs. 15, 16, 21 and 22; 53 ft N. and 41 ft W. of crossroads; 1 ft E. of W. right-of-way fence, 13.5 ft N. of fence cor. post; in concrete post; standard tablet stamped "10 WEK 1966" | 1481.322 |
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CHARTER OAK QUADRANGLE
158 - IOWA

FEET

LINE 2 (Cont'd)

CHARTER OAK QUAD. - 158

2	1	1.1	UE, 67 ft S., 32 ft W. and 2.6 ft lower than crossroads; cor. secs. 21, 22, 27 and 28, T. 86 N., R. 40 W.; E. side telephone pole; rail spike, painted "UE"	1475.70
4	2.1	UE, 46 ft N., 22 ft E. and 2.7 ft higher than crossroads, cor. secs. 27, 28, 33 and 34, T. 86 N., R. 40 W.; E. side power pole; rail spike, painted "UE"	1437.14	
6	2.4	Center of cross drives N.-S. and E.-W. rd., near W. sixteenth cor. secs. 28 and 33, T. 86 N., R. 40 W.; not painted	1474.7	
6	3.1	Reference Mark No. 3 for Garfield Triangulation Station is 69 ft E. of a telephone pole with triangular blaze and 40 ft S. of the center of graded rd. on S. right-of-way line; the mark projects 1-in. and the disk is stamped GARFIELD NO. 3 1950"	1473.139	
6	3.1	Reference Mark No. 4 for Garfield Triangulation Station 84 ft W. of a telephone pole with triangular blaze and 40 ft S. of the center of graded rd. on the S. right-of-way line; the mark projects 1-in. and the disk is stamped "GARFIELD NO. 4 1950"	1473.877	
7	3.1	USC&GS Triangulation Station GARFIELD is located about 7.0 mi SSW. of Battle Creek and 4.5 mi ESE. of Danbury on top of the divide between Soldier River and the Maple River, about 200 yards E. of the NW. cor. of sec. 33, T. 86 N., R. 41 W., 25 ft S. of the center of graded rd., 15 ft N. of the S. right-of-way along the W. edge of a driveway into a field; the disk is stamped "GARFIELD 1950"	1474.159	
8	3.6	Center of crossroad, cor. secs. 29, 28, 32 and 33, T. 86 N., R. 40 W.; not painted	1430.2	
10	4.3	UE; 32 ft N., 22 ft W. and 1.2 ft lower than crossroad, cor. secs. 29, 30, 31 and 32, T. 86 N., R. 40 W.; 2.5 ft corrugated steel culvert; punched hole; painted "UE"	1329.64	
12	5.3	UE; 33 ft S., 33 ft E. and 0.1 ft lower than T-rd. E., cor. secs. 31, 32, 5 and 6, Tps. 85 and 86 N., R. 40 W.; W. side power junction pole; rail spike; painted "UE"	1405.85	
13	6.4	Reference mark, 130 ft NE. of tablet; 44 ft S., 24 ft E. of crossroad; 2 ft concrete tube culvert; chiseled square, painted "RM"	1405.95	
14	6.4	Danbury, 2.5 mi S. and 3.5 mi E. of; 158 ft S., 32 ft W. and 4.8 ft higher than crossroads, cor. secs. 5, 6, 7 and 8, T. 85 N., R. 40 W., 9 ft S. of steel witness sign; 1 ft E. of W. right-of-way fence; on 10 ft copper coated steel rod inside 6-in. concrete tile; standard tablet stamped "33 T 1968 1411"	1410.668	
16	7.4	UE, 25 ft N., 30 ft E. and 3.0 ft lower than crossroad, cor. secs. 7, 8, 17 and 18, T. 85 N., R. 40 W., 1.5 ft concrete tube culvert; chiseled square; painted "UE"	1356.09	
18	8.5	UE, 35 ft N., 495 ft E. and 18.9 ft lower than crossroad, cor. secs. 17, 18, 19 and 20, T. 85 N., R. 40 W.; W. of two parallel 4 ft concrete tube culverts; chiseled square; painted "UE"	1227.50	
19	9.4	Reference mark, 261 ft N. of tablet; 48 ft S., 25 ft E. of crossroad, 2.5 ft concrete tube culvert; chiseled square; painted "RM"	1295.25	

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CHARTER OAK QUADRANGLE
158 - ICWA

LINE 2 (Cont'd)

CHARTER OAK QUAD. - 158

FEET

2	20	9.5	Rickett, 3.0 mi N. and 3.0 mi W. of; 309 ft S., 34 ft E. and 0.9 ft higher than crossroad, cor. secs. 16, 17, 20 and 21, T. 85 N., R. 40 W.; 309 ft S. of center of Co. Hwy. "G", 9 ft S. of steel witness sign; 1 ft W. of E. right-of-way fence; on 10 ft copper coated steel rod inside 6-in. concrete tile; standard tablet stamped "34 T 1968 1303"	1303.173
	21	10.5	UE, 36 ft S., 25 ft W. and 5.6 ft lower than crossroad, cor. secs. 20, 21, 28 and 29, T. 85 N., R. 40 W., 1.5 ft corrugated steel culvert; punched hole; painted "UE"	1330.78
	23	11.5	UE, 26 ft S., 23 ft E. and 4.3 ft lower than crossroads, cor. secs. 28, 29, 32 and 33, T. 85 N., R. 40 W.; 1.5 ft corrugated steel culvert; punched hole; painted "UE"	1361.64
	25	12.5	Rickett, 3.0 mi W. of; 410 ft N., 24 ft W. and 8.9 ft lower than crossroad, cor. secs. 32, 33, 4 and 5, T. 85 N., R. 40 W.; 12 ft S. of steel witness sign; 1 ft E. of W. right-of-way fence; on 10 ft copper coated steel rod inside 6-in. concrete tile; standard tablet stamped "35 T 1968 1395"	1394.936
	26	12.6	Reference mark, 451 ft S. of tablet; 41 ft S., 42 ft W. of crossroad; N. side power pole; rail spike; painted "RM"	1414.30
	28	13.6	UE, 27 ft S., 22 ft W. and 0.2 ft higher than crossroad, cor. secs. 4, 5, 8 and 9, T. 84 N., R. 40 W., 2 ft concrete tube culvert; chiseled square, painted "UE"	1345.23
	29	14.6	Reference mark, 150 ft NW. of tablet; 110 ft N., 20 ft E. of crossroad, top 1 yard granite boulder; chiseled square; painted "RM"	1256.58
	30	14.7	Charter Oak, 1.75 mi N. and 2.5 mi W. of; 31 ft N., 141 ft E. and 10.5 ft higher than crossroad, cor. secs. 8, 9, 16 and 17, T. 84 N., R. 40 W., 30 ft E. of steel witness sign; 1 ft S. of N. right-of-way fence; on 10 ft copper coated steel rod inside 6-in. concrete tile; standard tablet stamped "36 T 1968 1279"	1278.644
	33	15.8	UE, 22 ft N., 27 ft E. and same elev. as crossroad, cor. secs. 16, 17, 20 and 21, T. 84 N., R. 40 W.; 3 ft concrete tube culvert; chiseled square, painted "UE"	1359.43
	35	16.8	UE, 40 ft N., 20 ft E. and 2.7 ft higher than T-rd. W. (rd. E. offset 6 ft N.), cor. secs. 20, 21, 28 and 29, T. 84 N., R. 40 W., 1.5 ft corrugated steel culvert; punched hole; painted "UE"	1243.58
	36	17.2	UE, center of T-rd. N. (rd. S. offset; Iowa-141 E.-W.) + 500 ft N. of quarter cor. secs. 28 and 29, T. 84 N., R. 40 W.; painted "UE Centerline"	1199.988
	36	17.7	1.9 mi W. along the Chicago, Milwaukee, St. Paul & Pacific RR. from the First National Bank building at Charter Oak, 6 poles W. of MP 28, 64 ft N. of the center of the track, at a 5 x 6 ft concrete box culvert under State Hwy. 141, in the center of the top of the S. headwall, 18 ft S. of the center of the hwy., and about 1.5 ft higher than the track; a standard disk stamped "K 91 1935"	1208.757

LINE 3

W.E. Knouse, 1966; Book CV-2058

HOLSTEIN QUAD. - 183

19.3 "10 WEK 1966" (Described in Line 2)

1481.322

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CHARTER OAK QUADRANGLE
158 - IOWA

<u>LINE 3 (Cont'd)</u>	<u>HOLSTEIN QUAD. - 183</u>	<u>FEET</u>
19.3 Reference Mark 10 WEK; 100 ft S. of tablet, 43 ft S. and 29 ft W. of crossroads, in E. side of power pole; rail spike		1479.36
19.8 UE 10 A, T. 86 N., R. 41 W.; near quarter cor. secs. 15 and 22; 38 ft N. and 49 ft E. of rd. at N.-S. fence, in S. side of a telephone pole; rail spike		1414.77
20.0 UE 10 B, T. 86 N., R. 41 W.; near cor. secs. 14, 15, 22 and 23; 10.5 ft E. of center of crossroads, 6-in. from E. edge of paved rd.; chiseled square		1367.71
20.9 UE 10 C, T. 86 N., R. 41 W., about 0.1 mi E. of quarter cor. secs. 14 and 23, 14 ft N. of center of E.-W. rd., on top of N. end of concrete pipe culvert; chiseled square		1429.08
21.4 UE 10 D, T. 86 N., R. 41 W., near cor. secs. 13, 14, 23 and 24, about 300 ft E. of crossroads, 22 ft N. of center of E.-W. rd., on top of E. end of a headwall of a catch basin, chiseled square		1389.16
21.9 UE 10 E, T. 86 N., R. 41 W.; near quarter cor. secs. 13 and 24; 19.5 ft S. and 136 ft E. of rd. at fence N., on S. end of corrugated steel culvert; punched hole		1394.07
22.3 Reference Mark 11 WEK; 73 ft W. of tablet, 34 ft S. and 19 ft W. of crossroads; on W. end of concrete pipe culvert; chiseled square		1403.42
22.4 Battle Creek, 4.0 mi S. and 2.0 mi E. from, T. 86 N., Rs. 40 and 41 W.; near cor. secs. 13, 18, 19 and 24; 41 ft S. and 51 ft E. of crossroads; 17 ft E. of fence cor. post, 1 ft N. of S. right-of-way fence, in a concrete post; a standard tablet stamped "11 WEK 1966"		1411.118
22.9 UE 11 A, T. 86 N., R. 40 W., near quarter cor. secs. 18 and 19, 20 ft S. of center of E.-W. rd., 6 ft W. of a fence S., on S. end of a concrete pipe culvert; chiseled square		1389.30
23.5 UE 11 B, T. 86 N., R. 40 W., about 800 ft E. of cor. secs. 17, 18, 19 and 20; about 300 ft W. of jct. of E.-W. rd. and Co. Rd. "M", 6-in. E. of E. end of S. rail of bridge, 9 ft S. and 16 ft E. of center of bridge, on S. end of E. wooden abutment of bridge; copper nail and washer		1303.04
23.8 UE 11 C, T. 86 N., R. 40 W., near quarter cor. secs. 17 and 20; about 200 ft E. of rd. at fence N., 10 ft S. of center of bridge, on top and center of S. concrete rail of bridge; chiseled square		1301.80
24.3 UE 11 D, T. 86 N., R. 40 W.; near cor. secs. 16, 17, 20 and 21, 33 ft S. and 42 ft W. of crossroads; in N. side of telephone pole; rail spike		1385.70
24.7 UE 11 E.; T. 86 N., R. 40 W.; about 0.1 mi W. of quarter cor. secs. 16 and 21; 20 ft N. of center of E.-W. rd., on top of W. end of N. headwall of concrete box culvert; chiseled square		1342.86
25.3 Reference Mark 12 WEK; 76 ft W. of tablet, 59 ft S. and 36 ft W. of crossroads; in NE. side of telephone pole and 0.5 ft above ground; rail spike		1397.03
<u>IDA GROVE QUAD. - 182</u>		
25.3 Ida Grove, 6.0 mi S. and 1.0 mi W. from, 4.0 mi S. and 5.0 mi E. from Battle Creek; T. 86 N., R. 40 W.; near cor. secs. 15, 16, 21 and 22; 1 ft W. of E. right-of-way fence, 59 ft S. and 40 ft E. of crossroads; in a concrete post; a standard tablet stamped "12 WEK 1966"		1396.755

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CHARTER OAK QUADRANGLE
158 - IOWA

FEET

LINE 3 (Cont'd)

IDA GROVE QUAD. - 182

25.8 UE 12 A, T. 86 N., R. 40 W.; about 300 ft W. of quarter cor. secs. 15 and 22; 41 ft E. and 16 ft S. of rd. at drive S., on top of S. headwall of box culvert; chiseled square 1329.33

LINE 4

R.M. Brown, 1971; Book CV-2670

NOTE: Field elevations are published here pending additional checks.

EARLING QUAD. - 132

1 61 0.0 Arion, about 3.0 mi N. and 2.0 mi W. of, near cor. secs. 15, 16, 21 and 22, T. 83 N., R. 40 W., 85 ft SE. of, 17 ft SW. of and 2.1 ft lower than a T-rd. N., in a concrete culvert headwall, a standard tablet, stamped "91 1935" 1194.315

61 0.4 Reference mark, 230 ft W. of tablet, in NE. cor. of RR. trestle, a copper nail and washer 1196.646

CHARTER OAK QUAD. - 158

62 1.2 UE, 1.3 mi N. along RR. from tablet, in centerline of E.-W. rd., at a RR. crossing a copper nail and washer 1238.751

63 1.7 Charter Oak, about, 3.5 mi S. of and 4.0 mi E. of, in general vicinity of Kenwood, in sec. 9, T. 83 N., R. 40 W.; 99 ft SE. of, 28 ft SW. of and 9.4 ft lower than rd. at private drive NE. to a white farm house; in concrete culvert, headwall, a standard disk stamped "E 91 1935" 1243.473

THIS ELEV. 1243.473
PREV. ELEV. 1243.088
CLOSURE +.385

LINE 5

R.M. Brown, 1971; Book CV-2670

NOTE: Field elevations are published here pending additional checks.

CHARTER OAK QUAD. - 158

2 1 0.0 USC&GS BM, Charter Oak, about 3.5 mi S. of and 4.0 mi E. of, in general vicinity of Kenwood; in sec. 9, T. 83 N., R. 40 W., 99 ft SE. of 28 ft SW. of and 9.4 ft lower than rd. at a private drive NE. to a white farm house; a concrete culvert headwall, a standard disk stamped "E 91 1935" (the concrete culvert is on the SE. corner of SW. headwall) 1243.088

1 0.6 UE, 0.6 mi N. of tablet, near the W. sixteenth cor. between secs. 4 and 9, T. 83 N., R. 40 W., 32 ft S. of, 70 ft E. of and 0.5 ft higher than a T-rd. E.; in W. side of power pole, a lag bolt 1265.298

3 1.6 UE, 1.6 mi N. of tablet, near cor. secs. 4, 5, 32 and 33, Tps. 83 and 84 N., R. 40 W.; 36 ft N. of, 33 ft E. of and 6.9 ft lower than a T-rd. E.; in E. side of power pole, a lag bolt 1390.113

4 2.2 UE, 2.2 mi N. of tablet, near quarter cor. between secs. 32 and 33, T. 84 N., R. 40 W., 38 ft S. of, 19 ft W. of and 1.2 ft lower than crossroads, on W. end of an iron pipe culvert, a punched mark 1395.300

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CHARTER OAK QUADRANGLE
158 - IOWA

LINE 5 (Cont'd)

CHARTER OAK QUAD. - 158

FEET

2 6 3.3 USC&GS BM, Charter Oak, about 2.0 mi S. of and 2.7 mi E. of, near quarter cor. between secs. 31 and 32, T. 84 N., R. 40 W., 64 ft S. of, 34 ft E. of and 2.5 ft lower than N.-S. rd. at a RR. crossing; 1.5 ft NE. of the right-of-way fence; in concrete post, standard disk stamped "F 91 1935". 1322.352

THIS ELEV. 1322.352
PREV. ELEV. 1322.340
-.012

LINE 6

R.M. Brown, 1971; Book CV-2670

CHARTER OAK QUAD. - 158

NOTE: Line leveled twice, unadjusted mean elevations published here.

2 7 0.0 UE (Described in Line 5) 1395.300

7 0.4 Reference mark, 4.2 ft S. of tablet, in SW. side of a cor. fence post; a RR. spike 1400.746

8 0.4 Charter Oak, about 1.2 mi S. of and 3.6 mi E. of, near cor. secs. 28, 29, 32 and 33, T. 84 N., R. 40 W., 38 ft N. of, 30 ft E. of and 6.1 ft lower than crossroads; 4.2 ft N. and 0.5 ft W. of a cor. fence post, on rod support, a standard tablet, stamped "8 RB 1971" 1399.671

10 1.4 UE, 1.0 mi N. of tablet, near cor. of secs. 20, 21, 28 and 29, T. 84 N., R. 40 W., 64 ft S. of, 32 ft W. of and 3.8 ft higher than crossroads; in E. side of power pole, a lag bolt 1367.973

12 2.4 UE, 1.0 mi N. and 1.0 mi E. of tablet, near cor. secs. 21, 22, 27 and 28, T. 84 N., R. 40 W.; 23 ft S. of, 35 ft W. of and 1.4 ft lower than T-rd. N., on W. end of concrete tube culvert, a chiseled square 1379.766

14 3.5 Charter Oak, about 0.5 mi N. of and 4.5 mi E. of, near cor. secs. 15, 16, 21 and 22, T. 84 N., R. 40 W., 15 ft S. of, 35 ft W. of and 0.1 ft higher than rd. at a fence E.; 0.8 ft E. of a N.-S. fence, on rod support, a standard tablet stamped "9 RB 1971" 1464.112

15 3.5 Reference mark, 89 ft N. of tablet, in E. side of a power pole, a RR. spike 1457.485

16 4.0 UE, 0.5 mi N. of tablet, near the quarter cor. between secs. 15 and 16, T. 84 N., R. 40 W.; 8.0 ft S. of, 37 ft W. of and 3.2 ft lower than crossroads; in E. side of power pole, a RR. spike 1488.997

18 4.5 UE, 1.0 mi N. of tablet, near cor. secs. 9, 10, 15 and 16, T. 84 N., R. 40 W.; 33 ft S. of, 65 ft W. of and 5.3 ft lower than crossroads; on S. end of an iron pipe culvert, a punched mark 1338.550

20 5.5 UE, 2.0 mi N. of tablet, near cor. secs. 3, 4, 9 and 10, T. 84 N., R. 40 W., 31 ft S. of, 36 ft E. of and 2.2 ft higher than crossroads, in E. side of power pole, a lag bolt 1373.746

22 6.5 Ricketts, about 4.0 mi E. of, near cor. secs. 3, 4, 33 and 34, Tps. 84 and 85 N., R. 40 W.; 42 ft S. of, 32 ft W. of and 2.0 ft lower than crossroads, 10.0 ft S. of and 1.3 ft E. of a fence cor.; on rod support, standard tablet, stamped "10 RB 1971" 1386.164

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CHARTER OAK QUADRANGLE
158 - IOWA

LINE 6 (Cont'd)

CHARTER OAK QUAD. - 158

FEET

2	23	6.5	Reference mark, 78 ft N. of tablet, in E. side of power pole, a lag bolt	1387.403
25	7.5	UE, 1.0 mi N. of tablet, near cor. secs. 27, 28, 33 and 34, T. 85 N., R. 40 W., 26 ft S. of, 32 ft E. of and 5.5 ft lower than crossroads, in NW. side of a cor. fence post, a lag bolt	1359.414	
27	8.5	UE, 2.0 mi N. of tablet, near cor. secs. 21, 22, 27 and 28, T. 85 N., R. 40 W., 37 ft S. of, 40 ft W. of and 0.1 ft higher than crossroads; in E. side of power pole, a lag bolt	1458.470	
29	9.5	Schleswig, about 0.3 mi N. of and 3.5 mi W. of near cor. secs. 15, 16, 21 and 22, T. 85 N., R. 40 W.; 49 ft S. of, 34 ft E. of and 0.2 ft lower than crossroads, 16 ft S. of and 1.0 ft W. of a fence cor.; on rod support, a standard tablet stamped "11 RB 1971"	1440.940	
30	9.5	Reference mark, 19.5 ft N. of tablet, in N. side of power pole, a lag bolt	1439.984	
32	10.5	UE, 1.0 mi N. of tablet, near cor. secs. 9, 10, 15 and 16, T. 85 N., R. 40 W.; 33 ft N. of, 18 ft E. of and 1.1 ft lower than crossroads; E. end of concrete tube culvert, a chiseled square	1351.920	
34	11.6	UE, 2.0 mi N. of tablet, near cor. secs. 3, 4, 9 and 10, T. 85 N., R. 40 W., 25 ft N. of, 32 ft E. of and 6.2 ft lower than a T-rd. W.; in W. side of cottonwood tree, a RR. spike	1386.100	
36	12.5	Reference mark, 89 ft SW. of tablet, on S. end of concrete tube culvert; a chiseled square	1406.296	
37	12.6	Schleswig, about 3.2 mi N. of and 3.5 mi W. of, near cor. secs. 3, 4, 33 and 34, Tps. 85 and 86 N., R. 40 W.; 47 ft N. of, 41 ft E. of, and 6.9 ft lower than crossroads; 11 ft N. of and 1.0 ft W. of a fence corner; on rod support, a standard tablet, stamped "12 RB 1971"	1400.514	
39	13.6	UE, 1.0 mi N. of tablet, near cor. secs. 27, 28, 33 and 34, T. 86 N., R. 40 W., in centerline of crossroads; a chiseled square	1487.095	
41	14.6	UE, 2.0 mi N. of tablet, near cor. secs. 21, 22, 27 and 28, T. 86 N., R. 40 W., 40 ft S. of, 32 ft W. of and 2.9 ft lower than crossroads; in N. side of power pole, a lag bolt	1371.586	

IDA GROVE QUAD. - 182

43	15.6	Ida Grove, 6.0 mi S. and 1.0 mi W. from, 4.0 mi S. and 5.0 mi E. from Battle Creek; T. 86 N., R. 40 W.; near cor. secs. 15, 16, 21 and 22; 1 ft W. of E. right-of-way fence, 59 ft S. and 40 ft E. of crossroads, in a concrete post; a standard tablet stamped "12 WEK 1966"	1396.220
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PREV. ELEV. 1396.755
MEAN ELEV. 1396.220
CLOSURE -0.535