

THIRD-ORDER LEVELS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

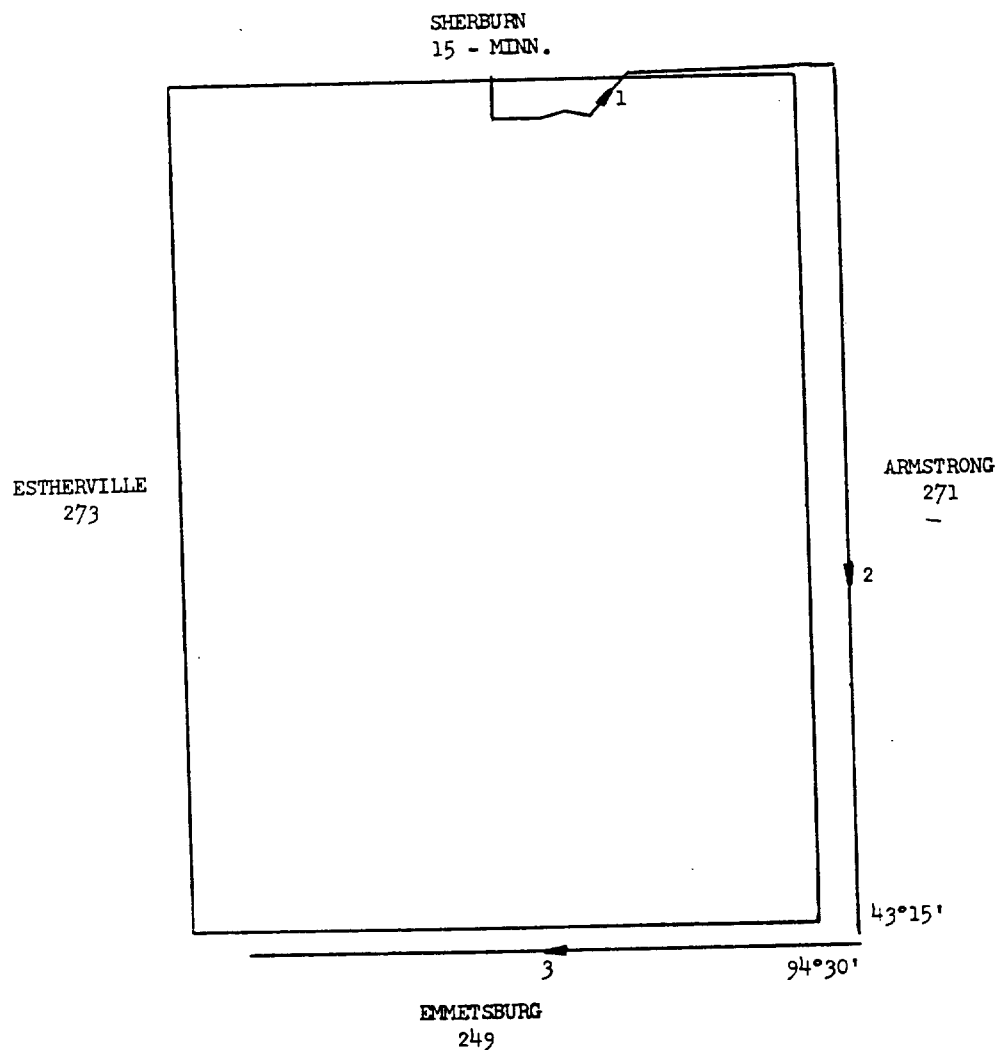
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

43-094-31
DOLLIVER QUADRANGLE
272 - IOWA
N4315-W9430/15
DIAGRAM NK 15-1
FAIRMOUNT

Emmet County

Edition of: 2-17-77

PR: ADP/LB/cvb



N.G.S. (USC&GS) VERTICAL CONTROL DATA

272-A

LINE 1

FEET

C.D. Lien, 1976; Book CV-3330

SHERBURN QUAD. - 14 MINN.

2 15 0.0 BM, Ceylon, 2.25 mi S. and 0.75 mi E. of; at the Minn.-Iowa line, T. 100 and 101 N., R. 31 and 32 W., near cor. secs. 31 and 36 and NW. cor. sec. 10, 260 ft W. of center of gate to the Franis Dooey farm, 88 ft S. and normal to center asphalt road on curve, 47 ft E. of a pole, about 16 ft N. of a line of evergreen trees, 15 ft E. of the eastern, most of NE. fence corner, a standard tablet in concrete post projecting 1-in. stamped "30 DWB 1967 1241" 1241.001

DOLLIVER QUAD. - 272 IA.

16 0.9 UE CA, 0.9 mi S. along road from tablet; T. 100 N., R. 32 W., near sec. cors. 9, 10, 15 and 16, 695 ft S. of crossroads and 13 ft E. of; 1.1 ft lower than centerline of road at drain; a chiseled square in the center of a concrete box culvert 1235.58

19 2.0 UE CB, 1 mi S. and 1 mi E. along road from tablet, T. 100 N., R. 32 W. sec. cors. 10, 11, 14 and 15, 83 ft S., 21 ft W. of centerline of road at T-rd. S., a chiseled cross on a concrete culvert 1231.08

23 3.1 BM, Armstrong, at the junction of hwy. 9 and 15, 6.5 mi N., 5 mi W. of; T. 100 N., R. 32 W., near sec. cors. 11, 12, 13 and 14, 33 ft S., 9 ft E. of; and 1.2 ft lower than centerline bridge over the E. fork Des Moines River at Okamanpe-Dan State Park, and 1 ft N., 9 ft E. of centerline of road at S. end of bridge cemented in the SE. cor. of bridge, a standard tablet stamped "8 CDL 1976" 1233.712

24 3.1 Reference mark, 36 ft N., 9 ft W. of centerline of bridge, 3.5 ft N., 9 ft W. of centerline road at the N. end of bridge and 69 ft N., 18 ft W. of tablet, a chiseled square on top of a round concrete slab 1235.14

SHERBURN QUAD. - 15 MINN.

27 4.5 UE 8 A, 1.4 mi NE. along road from tablet, T. 100 and 101 N., Rs. 31 and 32 W., sec. cors. 7 and 12, and the quarter cor. of sec. 33, 32 ft S., 56 ft W. of centerline of road at T-rd. S., a R.R. spike in a corner fence post 1229.94

30 5.5 UE 8 B, 2.4 mi ENE. along road from tablet, T. 100 and 101 N., R. 31 W., sec. cors. 7 and 8, and quarter cor. of sec. 34, 16 ft N., 51 ft W. of; and 1.4 ft lower than centerline of road at T-rd. S., a punched hole in a metal culvert 1245.75

32 6.0 BM, Armstrong, 7.5 mi N., 2.5 mi W. of; T. 100 and 101 N., R. 31 W., sec. cors. 34 and 35 and quarter cor. of sec. 8, 30 ft N., 36 ft W. of; and 1.8 ft lower than T-rd. N. and 1.5 ft W. of a telephone pole and witness sign, set on top of a 0.5-in. copper coated rod enclosed by a 6-in. tile, a standard tablet stamped "9 CDL 1976" 1254.029

34 7.1 UE 9 A, 1 mi E. along road from tablet, T. 100 and 101 N., R. 31 W., sec. cors. 35 and 36, quarter cor. of sec. 9, 237 ft N., 25 ft W. of; and 3.4 ft lower than T-rd. N., a chiseled square on a concrete culvert 1240.10

FAIRMONT QUAD. - 14 MINN.

37 8.1 BM, Wilbert, 3 mi S. and 2.25 mi E. of; on the Minnesota-Iowa State line; approx. cor. secs. 31 and 36, and N. quarter cor. sec. 10, Tps. 101 and 100 N., R. 30 and 31 W., 39 ft E., 25 ft S. and 2.9 ft lower than T-rd. N.; 3 ft E. of a power line brace pole; 3 ft N. of a fence; a standard tablet set in top of a concrete post stamped "15 WL 1965" 1238.970

LINE 2

FAIRMONT QUAD. - 14 MINN.

C.D. Lien, 1976; Book CV-3330

- 3 2 0.0 Wilbert, 3 mi S. and 2.25 mi E. of; on the Minnesota-Iowa State line; approx. cor. secs. 31 and 36, N. quarter cor. sec. 10, Ts. 101 and 100 N., R. 30 and 31 W., 39 ft E., 25 ft S. and 2.9 ft lower than T-rd. N.; 3 ft E. of a power line brace pole; 3 ft N. of a fence; a standard tablet set in top of a concrete post stamped "15 WL 1965" 1238.970

ARMSTRONG QUAD. - 271 IA.

- 2 0.5 UE LA; 0.5 mi E. along road from tablet, T. 100 and 101 N., R. 31 W., sec. cors. 10 and 11; quarter cor. of sec. 31, 39 ft N., 39 ft W. of road at T-rd. S. and 39 ft N., 15 ft E. of centerline of road at a field entrance N.; a chiseled square on a rock 1241.98
- 5 1.3 UE LB; 0.5 mi and 0.8 mi S. along road from tablet, T. 100 N., R. 31 W., sec. cors. 10, 11, 14 and 15, 27 ft N., 25 ft W. of; and 0.8 ft lower than T-rd. W. a punched hole in a metal culvert 1238.31
- 6 1.9 Reference mark, 4.8 ft N., 13 ft W. centerline of road at drain, 16.8 ft N. and 33 ft W. of tablet, a chiseled square on the NW. cor. of a box culvert 1233.99
- 7 1.9 BM, Armstrong, at the junction of Hwys. 9 and 15 S., 6 mi N. of; T. 100 N., R. 31 W., near the quarter cor. between secs. 14 and 15, 12 ft S., 20 ft E. of; and 3.5 ft lower than centerline of road over drain, 6.8 ft N., 12 ft W. of a T-fence cemented in the E. end of a concrete foundation over a round concrete culvert, a standard tablet stamped "11 CDL 1976" 1230.864
- 8 2.3 UE 11 A, 0.5 mi S. along road from tablet, a copper nail and washer in centerline of crossroads 1247.8
- 10 3.3 UE 11 B, 1.5 mi S. along road from tablet, a copper nail and washer centerline of road, at E.-W. fence line 1254.9
- 12 4.3 Reference mark, on top of a 0.5-in. iron rod in centerline of crossroads, a state hwy. sec. cor. rod 1246.67
- 13 4.4 BM, Armstrong, at the junction of hwy. 9 and 15 S., 3.5 mi N. of; T. 100 N., R. 31 W., sec. cors. 26, 27, 34 and 35, 144 ft S., 138 ft E. of crossroads, 7 ft S., 8 ft E. of the SW. cor. of an old school house and 4 ft S., 3.7 ft W. of entrance to school house, cemented in the SW. cor. of a concrete step, a standard tablet stamped "12 CDL 1976" 1247.060
- 15 5.4 UE 12 A, 1 mi S. along road from tablet, a R.R. spike in centerline of crossroads 1241.6
- 18 6.5 UE 12 B, 2.1 mi S. along road from tablet, T. 99 N., R. 31 W., near sec. cors. 2, 3, 10 and 11, 13 ft N., 34 ft E. of; and 5.3 ft lower than centerline of road at T-rd. E. a chiseled square on a concrete culvert 1244.12
- 21 7.7 Reference mark, 20 ft W. of tablet, a chiseled square in the SE. cor. of a concrete foundation for the SW. leg of the Armstrong Municipal Water Tower 1257.82
- 22 7.8 BM, Armstrong at; T. 99 N., R. 31 W., near the N. sixteenth cor. between secs. 14 and 15, cemented in the SE. cor. of a concrete foundation for SE. leg of the Armstrong Municipal Water Tower, a standard tablet stamped "13 CDL 1976" (BM 1.4 ft higher than street opposite) 1257.812

ARMSTRONG QUAD. - 271 IA.

FEET

LINE 2 (Cont'd)

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|----|------|-----|--|----------|
| 3 | 24 | 8.5 | UE 13 A, about 0.6 mi S. of tablet and 0.23 mi S. of, the junction of State Hwys. 9 and 15, S., 45 ft N., 9.7 ft W. of; and 0.5 ft higher than centerline of bridge, a chiseled square in the NW. cor. of a concrete bridge over the E. fork of the Des Moines River | 1211.63 |
| 27 | 9.3 | | UE 13 B, 1.35 mi S. of tablet, T. 99 N., R. 31 W., near the quarter cor. between secs. 22 and 23, 19 ft N., 39 ft E. of, and 2.3 ft lower than centerline of road at T-rd. W. and 10 ft N., 39 ft E. of centerline of road at field entrance E., a chiseled square in a concrete culvert | 1238.68 |
| 30 | 10.6 | | BM, Armstrong at the junction of State Hwys. 9 and 15 S., 2.25 mi S. of; T. 99 N., R. 31 W. near the S. sixteenth cor. between secs. 26 and 27, 39.7 ft N., 63.8 ft E. of; and 5.9 ft lower than centerline of road at T-rd. E., 12.7 ft N., 2 ft W. of a fence corner and 1.3 ft W. of a telephone pole and witness sign, set on top of a 0.5-in. copper coated steel rod enclosed by a 6-in. tile, a standard tablet stamped "14 CDL 1976" | 1263.331 |
| 31 | 10.6 | | Reference mark, 72 ft S., of tablet, 33 ft S., 63.8 ft E. of T-rd. E. and 1.5 ft NW. of a fence corner a chiseled cross in the top of a rail used for a hwy. right-of-way marker | 1264.07 |
| 32 | 11.3 | | UE 14 A, 0.75 mi S. along road from tablet, on top of state hwy. spike 4 ft E. of centerline of crossroads | 1258.8 |
| 35 | 12.3 | | UE 14 B, 1.75 mi S. along road from tablet, T. 98 N., R. 31 W. near the quarter cor. between secs. 2 and 3, 30 ft S., 57 ft E. of; and 2.2 ft lower than centerline of road at fence E. and 21 ft S., 57 ft E. of road at field entrance E., on top of a 0.5-in. rod in the top of a concrete post right-of-way marker | 1260.05 |
| 36 | 12.8 | | UE 14 C, 2.25 mi S. along road from tablet on top of a state hwy. spike 5 ft E. of crossroads | 1261.1 |
| 39 | 13.8 | | Reference mark, 11.6 ft N., 18 ft W. of tablet and 22 ft S., 36 ft E. of crossroads, a chiseled square on top of a concrete culvert | 1248.01 |
| 40 | 13.9 | | Armstrong, at the junction of State Hwy. 9 and 15 S., 5.5 mi S. of; and Ringsted; junction of county road "A 34", and R.R. crossing, 1 mi N. and 1.4 mi E. of; T. 98 N., R. 31 W., sec. cors. 10, 11, 14 and 15, 33.6 ft S., 54 ft E. of; and 3.4 ft lower than crossroads, 2 ft S., 1.8 ft W. of a fence corner and 1.6 ft S. of a telephone pole and witness sign, set on top of a 0.5-in. copper coated steel rod enclosed by a 6-in. tile set flush with the ground, a standard tablet stamped "15 CDL 1976" | 1247.418 |
| 43 | 14.8 | | UE 15 A, 0.9 mi S. along road from tablet, T. 98 N., R. 31 W., near sec. cors. 14, 15, 22 and 23, 0.1 mi N. of the junctions of State Hwy. 15 and 43, 30 ft S., 17 ft E. of; and same elev. as centerline of bridge, on top of a nail in the SE. cor. of a concrete bridge over Black Creek | 1245.35 |
| 46 | 15.9 | | UE 15 B, 2 mi S. along road from tablet on top of a hwy. nail and washer in centerline of crossroads | 1256.3 |
| 49 | 16.9 | | BM, Ringsted, at county road "A 34", a R.R. crossing, 2 mi S., 1.4 mi E. of; T. 98 N., R. 31 W., sec. cors. 26, 27, 34 and 36, 27 ft N., 43 ft E. of; and 5.7 ft lower than crossroads, 1 ft S. of a telephone pole and 1.3 ft W. of a corner post and witness sign, set in top of a 0.5-in. copper coated steel rod enclosed by a 6-in. tile set flush with ground, a standard tablet stamped "16 CDL 1976" | 1243.479 |

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43-094-31
DOLLIVER QUADRANGLE
272 - IOWA

LINE 2 (Cont'd)

ARMSTRONG QUAD. - 271 IA.

FEET

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|----|------|--|--|---------|
| 3 | 50 | 16.9 | Reference mark, 2 ft N., 22 ft W. of tablet and 30 ft N., 27 ft E. of crossroads; a chiseled square on top of a concrete culvert | 1244.57 |
| 53 | 17.9 | UE 16 A, 1 mi S. along road from tablet, T. 97 and 98 N., R. 31 W., sec. cors. 2, 3, 34 and 35, 51 ft S., 66 ft W. of; and 0.6 ft lower than crossroads and 1 ft E. of entrance to a wire corn crib, a chiseled square on a concrete foundation for a wire corn crib | | 1259.86 |

WHITTEMORE QUAD. - 248 IA.

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| 54 | 18.9 | UE, Fenton B, 2 mi W. along road from tablet, T. 97 N., R. 31 W., sec. cors. 2, 3, 10 and 11, 33 ft S., 33 ft W. of; and 0.5 ft higher than crossroads, a chiseled square on a large rock | 1274.77 |
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LINE 3

C.D. Lien, 1976; Book CV-3330

WHITTEMORE QUAD. - 248

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| 1 | 47 | 14.3 | UE Fenton B, described in line 2 | 1274.77 |
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EMMETSBURG QUAD. - 249

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|----|------|--|----------|
| 51 | 15.3 | UE Fenton C, 3 mi W. along road from tablet, R. 31 W., T. 97 N., sec. cors. 3, 4, 9 and 10, 50 ft N., 19 ft W. of crossroads, a chiseled square on a concrete culvert | 1289.17 |
| 53 | 16.1 | Fenton, 1.5 mi N., 4.8 mi W. of; T. 97 N., R. 31 W. near the W. sixteenth cor. between secs. 4 and 9, 11 ft S., 13 ft E. of; 0.2 ft higher than centerline of bridge and 11 ft S., 76 ft E. of centerline of road at field entrance N. cemented in the SE. cor. of bridge, a standard tablet stamped "4 CDL 1976" | 1270.001 |
| 54 | 16.1 | Reference mark, 24 ft N., 54 ft W. of centerline of bridge, 35 ft N., 67 ft W. of tablet and 24 ft N., 10 ft E. of centerline road at a field entrance N., a chiseled square on a concrete culvert | 1265.44 |
| 58 | 17.3 | UE 4 B, 1.2 mi W. along road from tablet, T. 97 N., R. 31 W., sec. cors. 5, 6, 7 and 8, 54 ft N. and 24 ft E. of; and 3.4 ft lower than crossroads and 12 ft S., 24 ft E. of centerline road at a field entrance E., a chiseled square on the S. end of a concrete culvert | 1274.05 |
| 60 | 18.2 | UE 4 C, 2.2 mi W. along road from tablet, a chiseled square in centerline of crossroads | 1277.7 |
| 62 | 18.6 | Reference mark, 15 ft S., 24 ft E. of tablet and 42 ft N., 12 ft W. of centerline of road at field entrance N., a chiseled square on a concrete culvert | 1266.08 |
| 63 | 18.6 | BM, Fenton, 1.5 mi N., 7.4 mi W. of, and Graettinger, at the junction of hwy. 4 and county road B 14, 9.6 mi E. of; T. 97 N., R. 32 W., 64 ft N. and 10 ft W. of; and 3.6 ft lower than centerline of road at a drive S., 64 ft N., 39 ft W. of centerline of road at a field entrance N. and 6.5 ft W., 12 ft S. of a telephone pole, cemented in the top of an old concrete foundation along E. bank of drain, a standard tablet stamped "5 CDL 1976" NOTE: B.M. is near the quarter cor. between secs. 1 and 12 | 1266.213 |
| 65 | 19.3 | UE 5 A, 0.6 mi W. along road from tablet, T. 97 N., R. 32 W., sec. cors. 1, 2, 11 and 12, 57 ft N., 21 ft W. of; and 3.2 ft lower than crossroads, a chiseled cross on a metal culvert | 1271.79 |

EMMETSBURG QUAD. - 249

FEET

LINE 3 (Cont'd)

LINE 3 (Cont'd)

1	67	20.3	UE 5 B, 1.6 mi W. along road from tablet, a chiseled square in centerline of crossroads	1298.94
69	21.2		BM, Graettinger at the junction of hwy. 4 and county road B14, 7 mi E. of, T. 97 N., R. 32 W. sec. cors. 3, 4, 9 and 10, 38 ft S., 160 ft E. of; and 1.7 ft lower than crossroads, 3.5 ft W. of a telephone pole and witness sign, set on the top of a 0.5-in. copper coated steel rod driven to the depth of 15 ft and enclosed by a 6-in. tile a standard tablet stamped "6 CDL 1976"	1307.696
70	21.3		Reference mark, 93 ft N., 36 ft W. of crossroads, 131 ft N., 196 ft W. of tablet and 13 ft S., 36 ft W. of centerline of road at a field entrance W.	1306.49
73	22.3		UE 6 A, 1 mi W. along road from tablet, a chiseled square in centerline of crossroads	1315.60
77	23.5		UE 6 B, 2.15 mi W. along road from tablet, T. 97 N., R. 32 W. and 764 ft W. of sec. cors. 5, 6, 7 and 8, 36 ft N. and 5.5 ft lower than centerline of road at drain, a chiseled square in the center of a concrete box culvert	1266.04
80	24.3		Reference mark, 39 ft N., 37 ft W. of crossroads, 51 ft N., 90 ft E. of tablet and 3.8 ft N., 9.6 ft E. of a power pole, a chiseled square on a rock	1243.63
2	1	24.3	Graettinger, at the junction of Hwy. 4 and county road B 14, 4 mi E. of; T. 97 N., R. 32 and 33 W., near sec. cors. 1, 6, 7 and 12, 12 ft S., 129 ft W. of crossroads and 12 ft S., 21 ft E. of; and 0.6 ft higher than centerline of bridge cemented in the SE. cor. of bridge, a standard tablet stamped "7 CDL 1976"	1248.213
3	25.3		UE 7 A, 1 mi W. along road from tablet, on top of an Iowa Hwy. Dept. spike in centerline of T-rd. N.	1291.6
6	26.4		UE 7 B, 2 mi W. along road from tablet, T. 97 N., R. 33 W., sec. cors. 2, 3, 10 and 11, 45 ft N., 22 ft W. of; and 2.2 ft lower than centerline of road at T-rd. N. and 6.5 ft S., 22 ft W. of centerline of road at a field entrance W., a chiseled square on a concrete culvert under field entrance	1288.37
9	28.2		BM, 2.4 mi NW. along the Chicago, Rock Island & Pacific R.R. from the station at Osgood, Palo Alto County, 1.7 mi SE. from the station at Graettinger, 330 ft SE. of milepost 193, 51 ft W. of the centerline of a section road, 47.7 ft NE. of the NE. rail of the main track, 14.8 ft NW. of a fence corner and 1.5 ft SW. of a right-of-way fence, a standard USC&GS disk stamped "H 19 1934" and set in the top of a concrete post projecting about 4-in. above ground	1234.213