

VARIANCE REQUEST

12.5.1

✓ 9-18-06

Iowa Department of Natural Resources

1. Date : 9/1/93 13. Decision: *Approved*
2. Review Engineer : Fred Evans Date: 9/3/93
3. Date Received : 8/19/93
4. Facility Name : Libertyville 14. Appeal:
5. County Number : 51 Date:
6. Program Area : CP
7. Facility Type : CO1
8. Subject Area : 305
9. Rule Reference : 64.2(9)
10. Design Std. Ref. : 12.5.1
11. Consulting Engr. : French-Rencker
12. Variance Rule : 64.2(9) C

15. Description of Variance Request

Two small subdivisions have been proposed for the small community of Libertyville (1990 population of 264). In view of the limited area and population to be served in each area with no future extension required to serve adjacent areas, the engineer has proposed using 6" diameter sewers. Since Libertyville is a sewerred community and our design standards require a minimum sewer size of 8" for such communities, a variance has been requested to use 6" sewer.

16. Consulting Engineer's Justification

1. The variance is justified because 6" sewer has more than sufficient hydraulic capacity for the proposed lots, and the 6" is not subject to future extensions. The population for each subdivision is expected to be well

5. Consulting Engineer's Justification (cont.)

under 50 people.

2. The adjacent areas are already served by existing sewers or could be served by extension of existing sewers. A "General Layout" is attached which highlights adjacent areas and notes added for future service to these areas.

17. Department's Justification

Approval of the variance request is recommended based upon the consulting engineers justification and the following considerations:

1. The total length of sewer to serve each of the subdivisions is less than the maximum length of 800' for 6" sewers to serve unsewered communities.
2. A minimum sewer grade of 0.6% is proposed for the 6" sewers. A flowing full velocity of 2 fps is attained in 6" sewers at such a grade.
3. If Libertyville was an unsewered community the proposed 6" diameter sewers would be acceptable under our present design standards.

18. Precedents Used

Variances for use of 6-inch diameter sewers in sewer communities have previously been approved for the following cities: Albia, Faintfield, Keokuk, Leon, Lisbon, McGregor, Pleasantville, University Park, Maconna and West Union.

19. Staff Reviewer

: Frank Evans

Date: 9/1/93

STATE OF IOWA
DEPARTMENT OF NATURAL RESOURCES
HENRY A. WALLACE BUILDING
DES MOINES, IOWA 50319

CONSTRUCTION PERMIT

City of Libertyville
108 North Main
Libertyville, IA 52567

PERMIT NO.: 93-291-S

FILE: Libertyville - Sewage

SUBJECT: Libertyville Subdivisions

PROJECT NO.: S93-249

In accordance with the provisions of Sections 455B.173.3 and 455B.174.4 Code of Iowa, and Rule 567--64.2(455B) or Rule 567--65.6(455B), or Rule 567--43.3(455B) of the Iowa Administrative Code, the Director of the Department of Natural Resources does hereby issue a permit for the construction of:

1,052 feet of 6-inch sanitary sewer and appurtenances in two subdivisions, City of Libertyville, Iowa.

The requested variance from our design standards to permit the use of 6-inch diameter sewers for this project has been approved in accordance with the exception on pipe diameter in the design standards which is applicable to unsewered communities.

The construction of the project shall be initiated within one year of issuance of this permit or this permit is no longer valid. Within thirty days after completion of construction, the permit holder shall submit a certification by a registered professional engineer that the project was completed in accordance with the approved project documents.

Pursuant to Section 455B.174.4, Code of Iowa, you have the right to appeal any condition of this permit by filing with the Director of the Department of Natural Resources a notice of appeal and request for administrative hearing within thirty days of receipt of this permit.

Contact Fred M. Evans at 515/281-8995 with any questions or comments.

For the Department of Natural Resources:

Larry J. Wilson, Director

By: 

ENVIRONMENTAL PROTECTION DIVISION

Date: September 3, 1993

cc: French-Reneker Associates, Inc., Fairfield, IA
Field Office 6

(FME245.BP)

Plan Distribution

2 Engineer

FRENCH - RENEKER - ASSOCIATES, Inc.

Donald E. French, (1921-1982)

1501 S. MAIN STREET

PO BOX 135

FAIRFIELD, IOWA 52556

515-472-5145

CONSULTING ENGINEERS

W. Daniel Reneker, PE

James I. Warner, PE

Kenneth D. Bucklin, PE-LS

David H. Fredericks, PE

Jerry W. Long, PE

August 17, 1993

Mr. Fred Evans
Iowa Dept. of Natural Resources
Wallace State Office Bldg.
900 E. Grand
Des Moines, IA 50319

Re: Libertyville Subdivisions - Sanitary Sewer
(92-79)

Dear Mr. Evans:

On behalf of the City of Libertyville, we request a variance to allow 6" sanitary sewer in two subdivisions. Drawings for the proposed projects have been previously submitted.

I have enclosed a drawing showing the "General Layout" of Libertyville's existing sewer. The proposed 6" sewer has been shown in red.

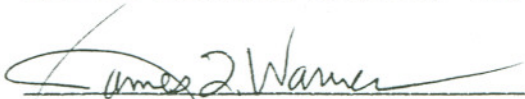
The variance is justified because 6" sewer has more than sufficient hydraulic capacity for the proposed lots, and the 6" is not subject to future extensions. The population for each subdivision is expected to be well under 50 people.

The attached "General Layout" has areas highlighted adjacent to the proposed 6" sewer and associated notes for each highlighted area. The notes show that adjacent areas are already served by existing sewer or could be served by extension of existing sewer.

Please grant this variance for 6" sewer to the City of Libertyville and issue a construction permit.

Very truly yours,

FRENCH-RENEKER-ASSOC., INC.


James I. Warner, P.E.
Project Engineer

JIW/jc
Enclosures
cc: Mayor Eugene Stump

DATE PREPARED

PROJECT IDENTITY

PROJECT NO.

July 15, 1993

Libertyville Subdivisions

DATE REVISED

Libertyville, Iowa - 1993

PERMIT NO.

1. Design Basis

	Initial		Design Year (2013)	
Residential service area	4.0	Acres	4.0	Acres
Population	0	Persons	45	Persons
Flow (100 GPCD)	0	GPD	4500	GPD
BOD ₅ (0.17 #/d/cap)	0	#/day	7.65	#/day
Industrial service area	0	Acres	0	Acres
Rated Flow		GPD		GPD
BOD ₅		#/day		#/day
Other		Acres		Acres
Rated Flow		GPD		GPD
BOD ₅		#/day		#/day
Total BOD ₅	0	#/day	7.65	#/day
Total Flow	0	GPD	4500	GPD
Peak Hourly Flow	0	GPD	18900	GPD

Pipe Diameter	6 Inch	10 Inch	12 Inch
Material	PVC		
Joint	Gasket		
Minimum Slope	0.6 %		
Maximum Manhole Space	307 Ft.		
Total Sewer Length	1052 Ft.		
Maximum Cover	4.5 Ft.		
Minimum Cover	10 Ft.		

Construction specifications (Indicate ASTM No. or other standard included in the specifications). A brief description is required in each part.

- A. Bedding class FRA Standard Specifications 31.02, Granular Bedding
- B. Pipe laying FRA Standard Specifications 32.07, Pipe Laying
- C. Compaction FRA Standard Specifications 31.04, Backfilling and Finishing
- D. Manhole FRA Standard Specifications 33, Manholes
- E. Specified maximum infiltration/exfiltration rate 200 GPDMPF
- F. Infiltration/exfiltration test procedures FRA Standard Specifications 32.08, Low Pressure Air
- G. Alignment & grade test procedures
 - (1) During construction: Stake & batter board _____ Laser X
 - (2) After construction: Lamping X Other _____
- H. Deflection test procedures Mandrel

Are detailed manhole drawings included? Yes X No _____, Typical frame and cover assembly Spec. 33.02. Are manhole covers nonvented? Yes X No _____.

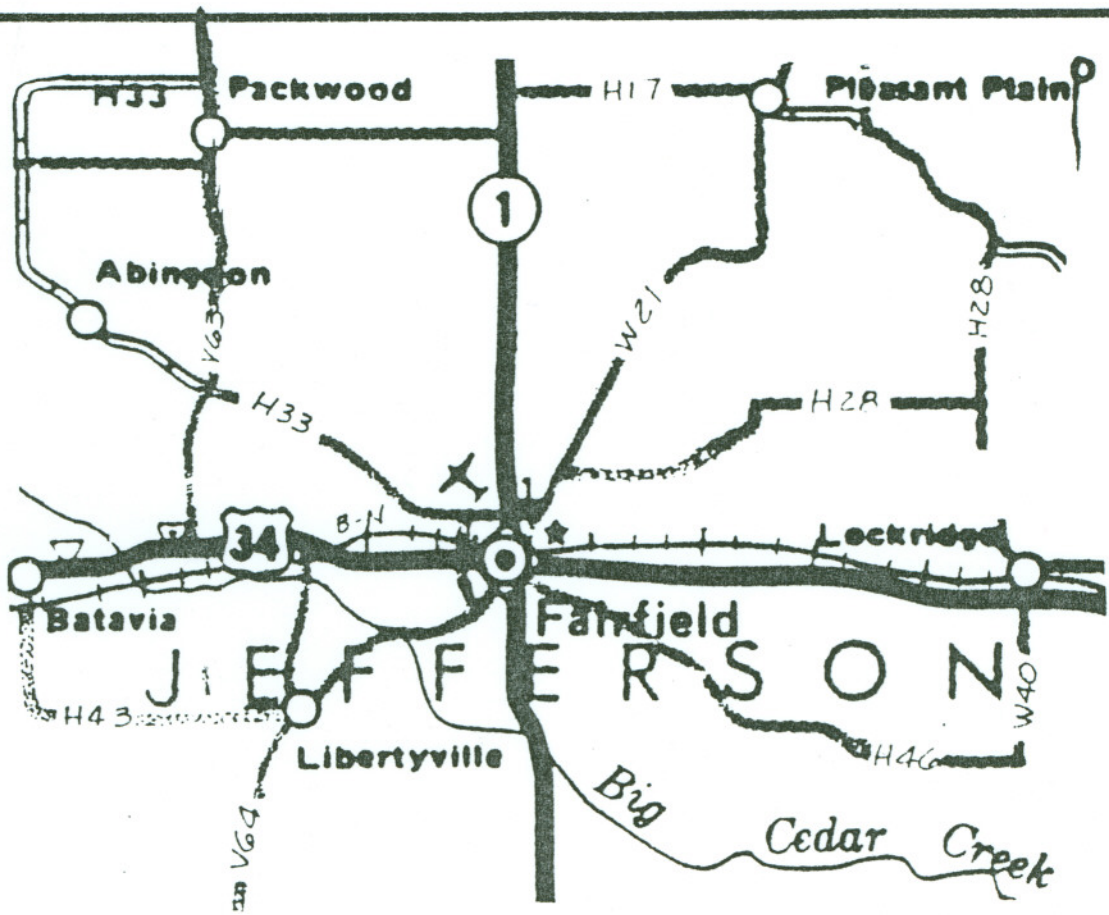
Manhole diameter 48 In. Manhole opening diameter 22 In. Material R/C.

Minimum sewer & water main separation: Horizontal 10 ft. Vertical 18 In.

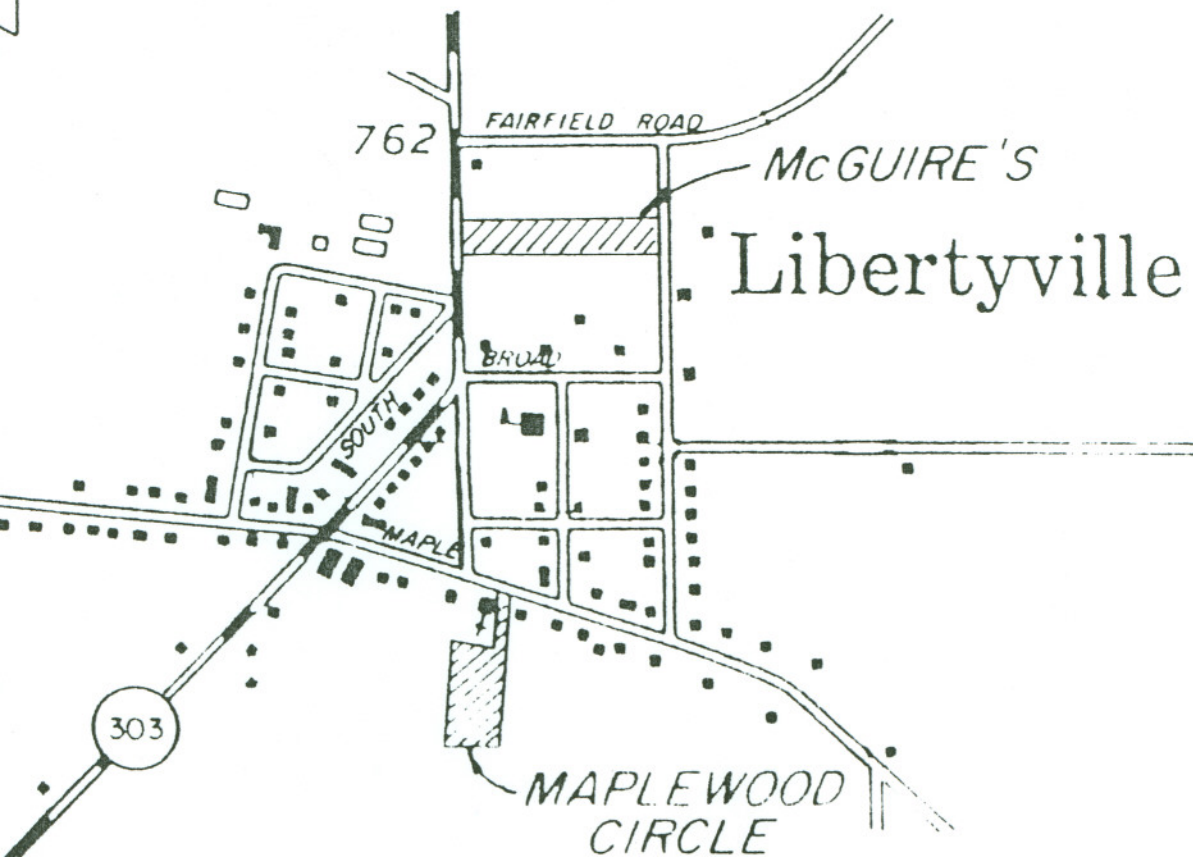
Are specifications included? No

Stream, road, or railroad crossing protection N/A

Are specifications included? _____

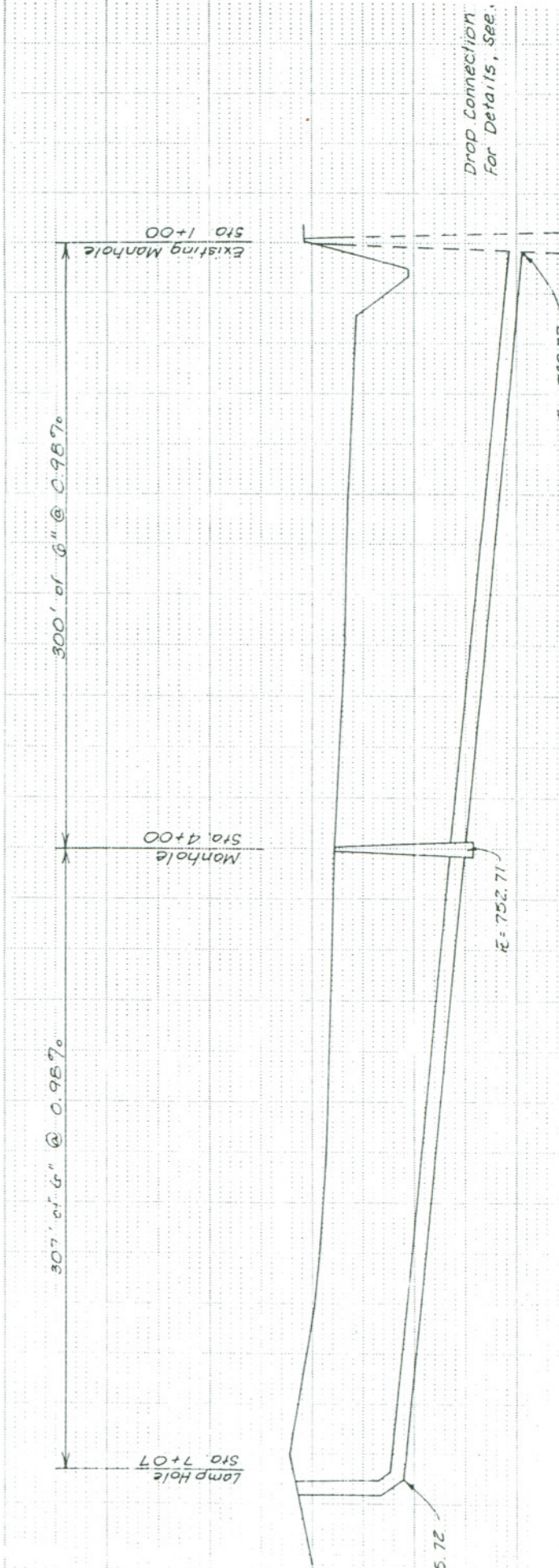
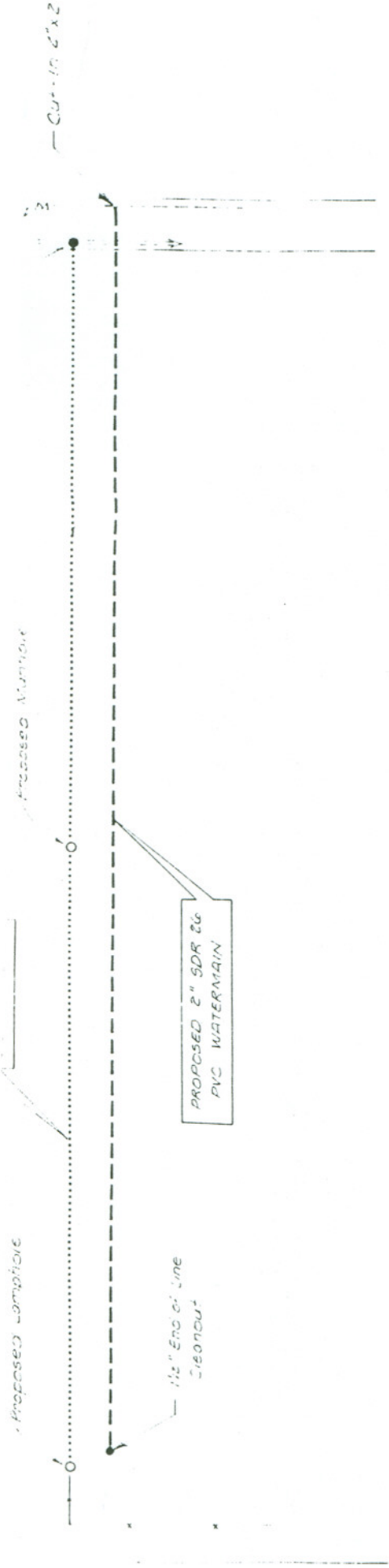


LOCATION MAP



FRENCH - RENEKER - ASSOCIATES, Inc.

RY



Drop Connection
For Details, See.

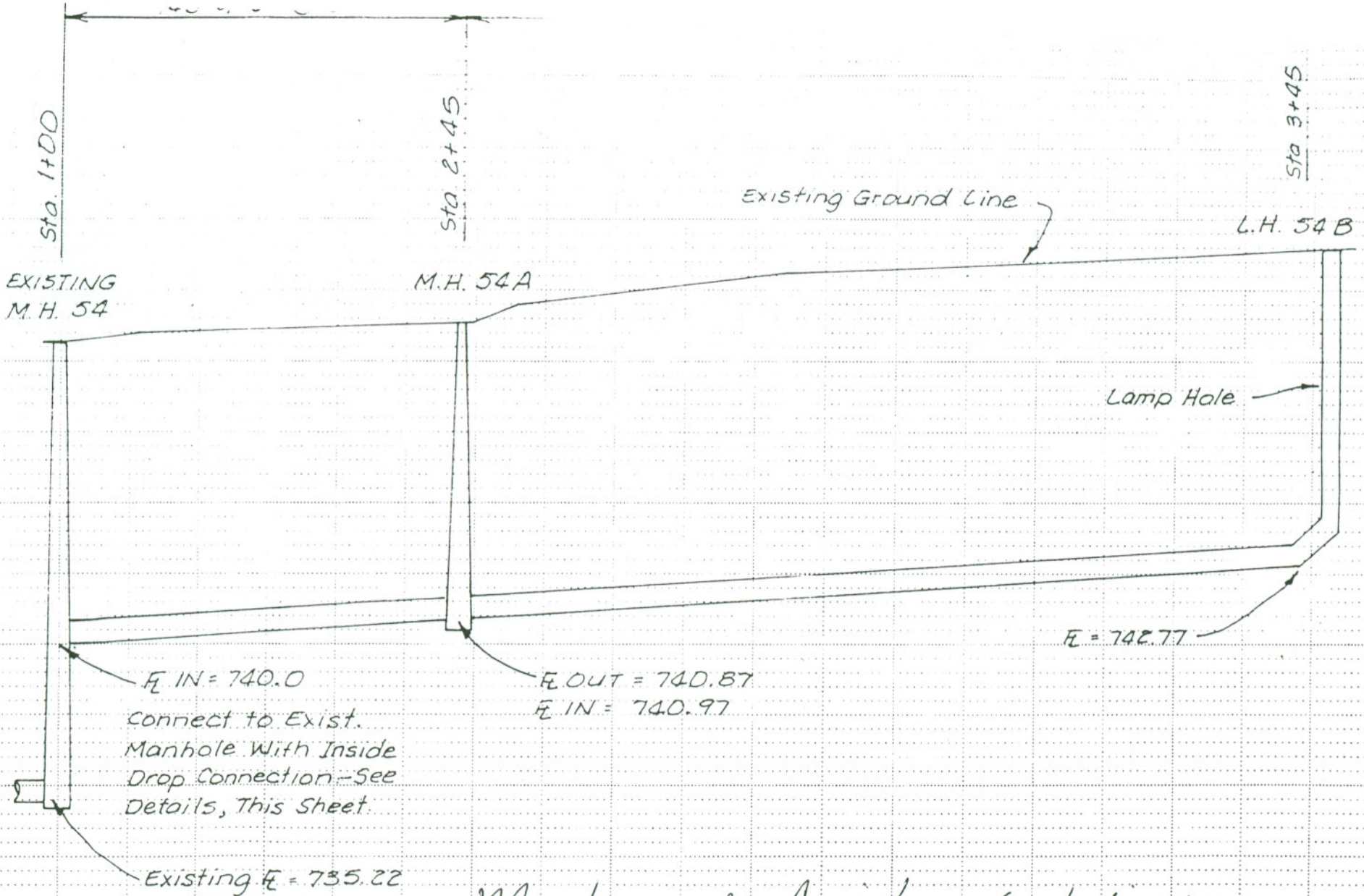
Existing $\bar{E} = 745.77$

$\bar{E} = 749.77$

$\bar{E} = 752.71$

755.72

McGuire's Subdivision
Libertyville, Iowa



Maplewood Circle Subdivision
 Libertyville, Iowa