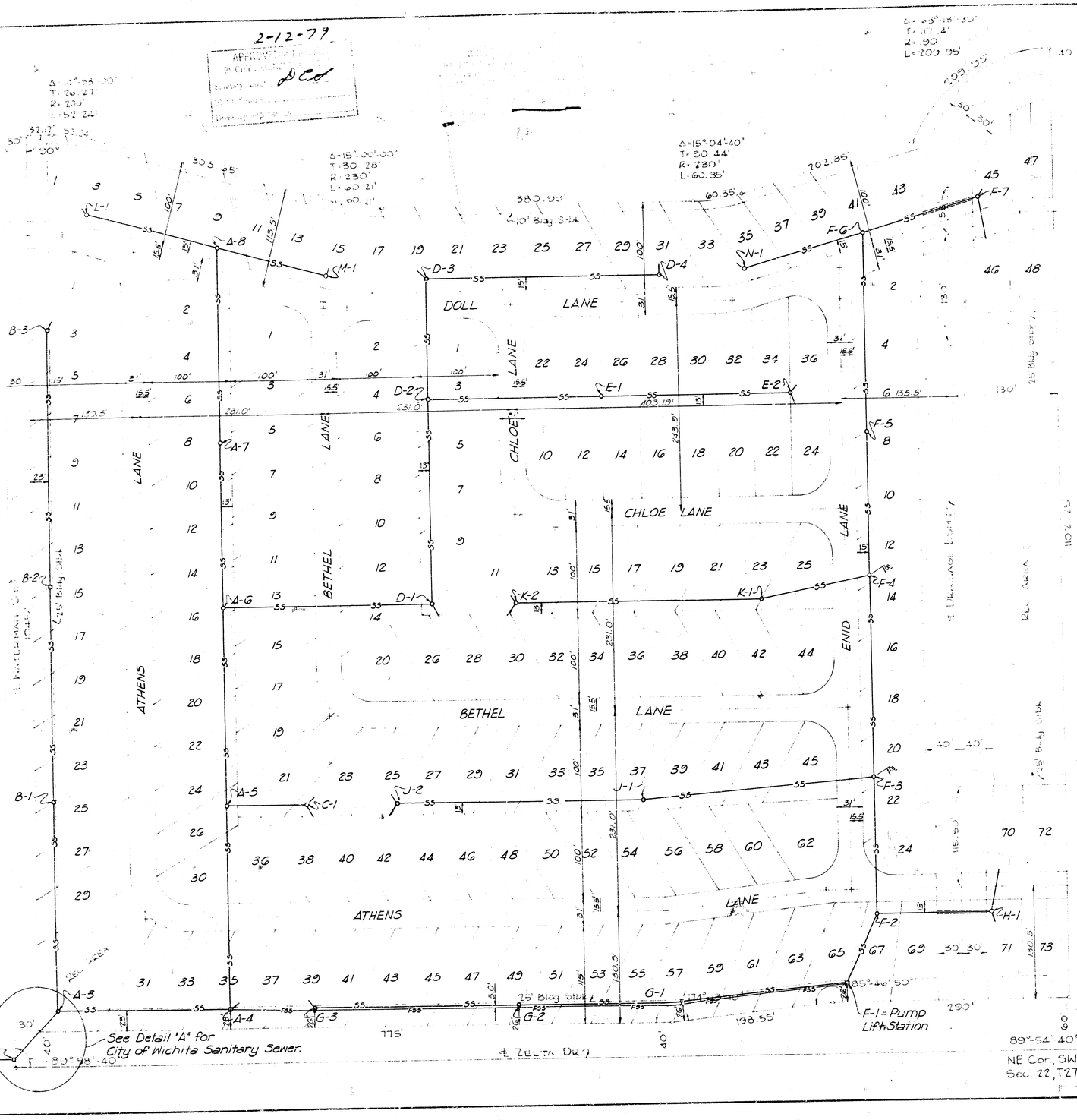
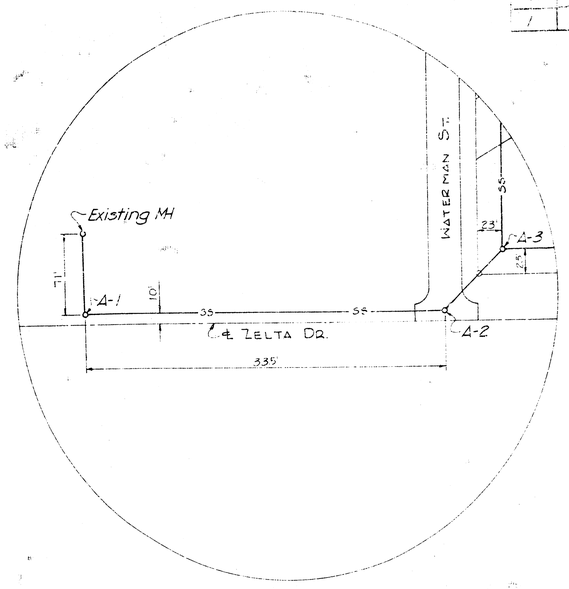
2-12-79

APPROVED
DCd





DETAIL "A"

SHEET	SHEETS
1	14

LIFESTYLE MOBILE HOME PARK

SANITARY SEWER PLAN

ENVIRONMENTAL ENTERPRISES INC.
WICHITA, KANSAS

PROJECT NO. 468-76-245-80683-000-000-008

DELAMATER, FREUND & ASSOCIATES, P.A.
ENGINEERS & ARCHITECTS, WICHITA, KANSAS
DECEMBER , 1978

DAVID CHARLES SIEBERT NUMBER 7284 STATE OF KANSAS REGISTERED PROFESSIONAL ENGINEER

STATE OF KANSAS
APPROVED
DIVISION OF ENVIRONMENT
BY

INDEX OF SHEETS

1. Title Sheet
2-10. Plan-Profile Sheets
11. Pump Lift Station
12. Sewer Appurtenances
13. Auxiliary Details
14. Electrical Details

SCALE 1" = 60'

249-D-207

1/14

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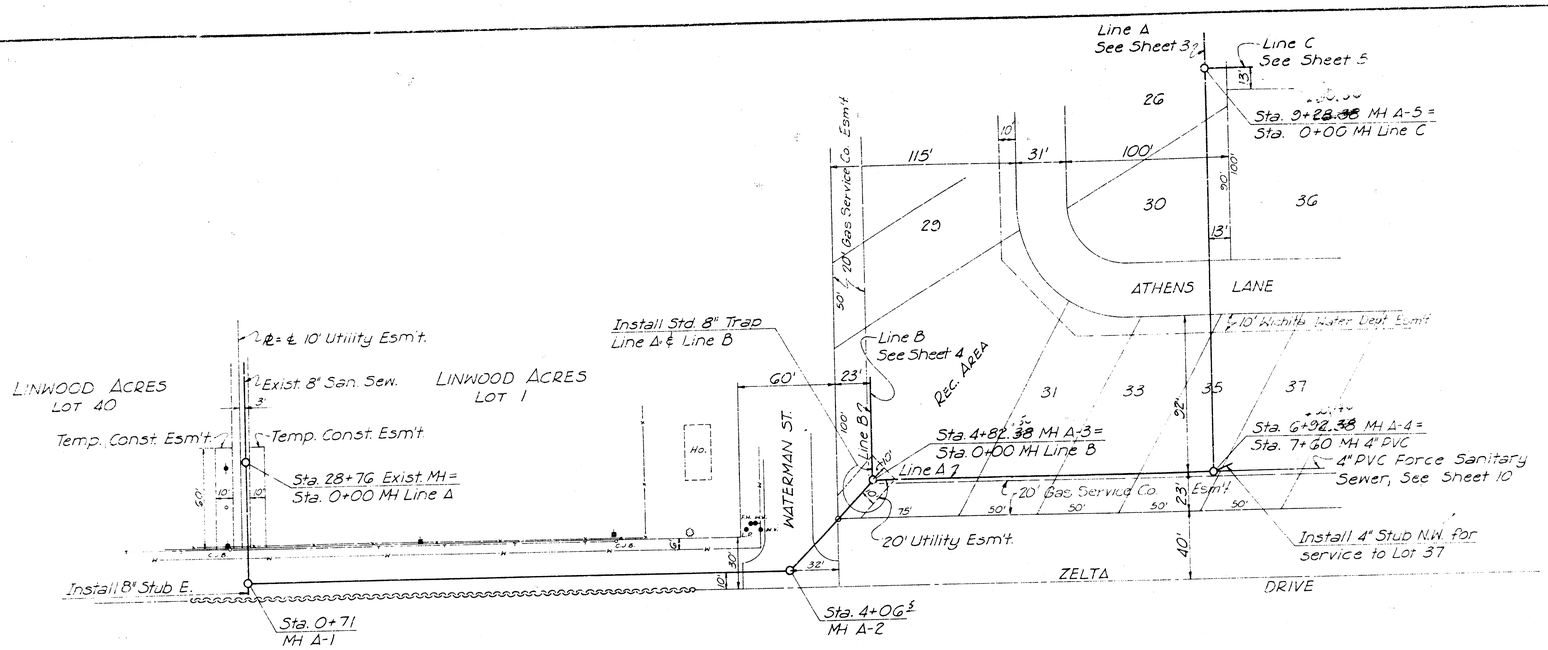
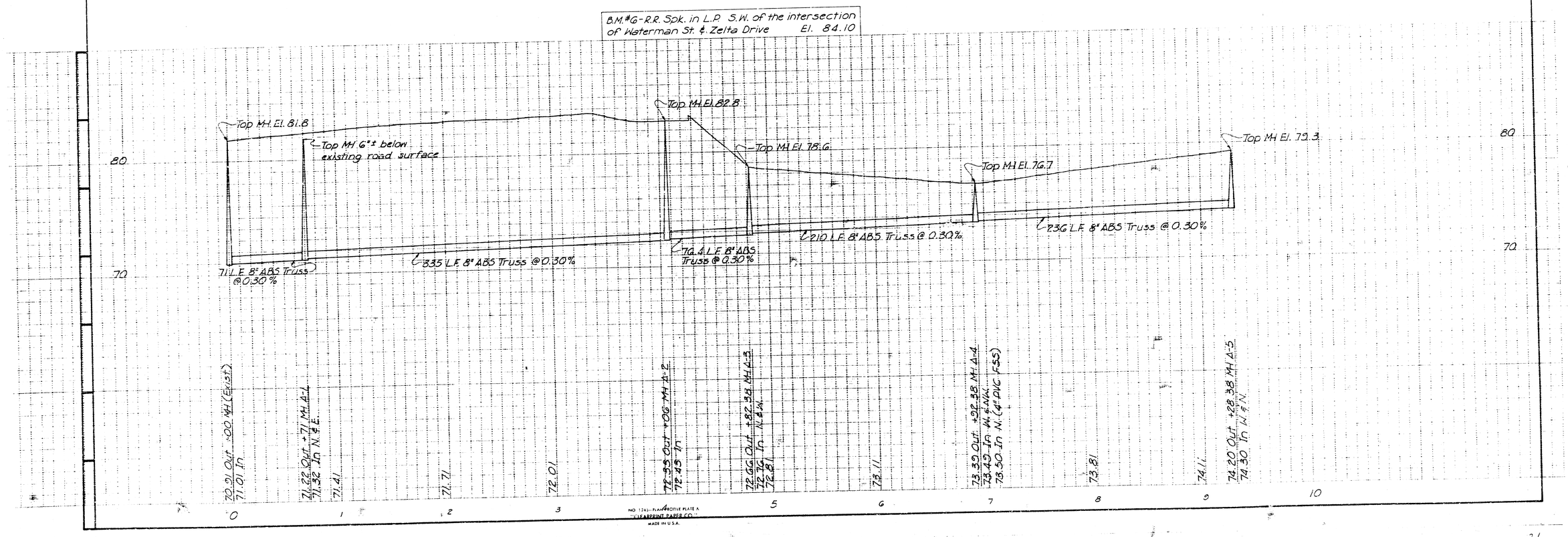


SCALE
PLAN: 1" = 40'
PROFILE HORIZ. 1" = 40'
VERT. 1" = 4'

NOTE:
There is an existing 8" Stub East from the existing MH Sta. 28+76. Excess dirt from Linwood Acres to be disposed of per property owners' instructions.



NO. 1261—PLAN & PROFILE PLATE A
"KLEARPRINT PAPER CO."
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240-D
2/14

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B.M. #4 - Ch. "D" in end of curb return on North side of Waterman St. on west Property Line El. 88.65

Install 4" Stub S.W. for service to Lot 1

Sta. 1+65 MH L-1

Sta. 15+79.60 MH A-8 =
Sta. 0+00 MH Line L =
Sta. 0+00 MH Line M

Sta. 13+47.87 MH A-7

Sta. 11+59.38 MH A-6 =
Sta. 0+00 MH Line D

Sta. 9+28.38 MH A-5 =
Sta. 0+00 MH Line C

Line A
See Sheet 2

Line C
See Sheet 5

Line D
See Sheet 6

ATHENS LANE

BETHEL LANE

DOLL LANE

10' Gas Service Co. Esm't

20' Gas Service Co. Esm't

10' Alcohol Water Dept. Esm't

Sta. 1+35 MH M-1

Install 4" Stub N.W. for service to Lot 15

SCALE
PLAN: 1" = 40'
PROFILE HOR. Z. 1" = 40'
VERT. 1" = 4'

Top MH El. 79.3
231 L.F. 8" ABS Truss @ 0.30%
74.20 Out +28.38 MH A-5
74.30 In W & N

Top MH El. 82.7
188.5 L.F. 8" ABS Truss @ 1.34%
74.32 Out +59.38 MH A-6
75.00 In M & N

Top MH El. 85.5
231.8 L.F. 8" ABS Truss @ 1.34%
77.62 Out +47.87 MH A-7
77.72 In

Top MH El. 87.5
80.83 Out +79.60 MH A-8
83.61 In S.W. (Outside Drop)
80.93 In N.E.

8" LINE S.W.
84.65
80.83 Out +79.60 MH A-8
83.61 In
85.33 +65 MH L-1
85.43 In S.W.

Top MH El. 87.5
165 L.F. 8" ABS Truss @ 1.04%

Top MH El. 88.9

8" LINE N.E.
81.97
80.83 Out +79.60 MH A-8
80.93 In
82.34 +35 MH M-1
82.44 In N.W.

Top MH El. 87.5
135 L.F. 8" ABS Truss @ 1.04%

Top MH El. 86.3

NO. 1265 - PLANOGRAPHIC PLATE A
CLEARPRINT PAPER CO.
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247-D
FAP Sec. 2

3/14

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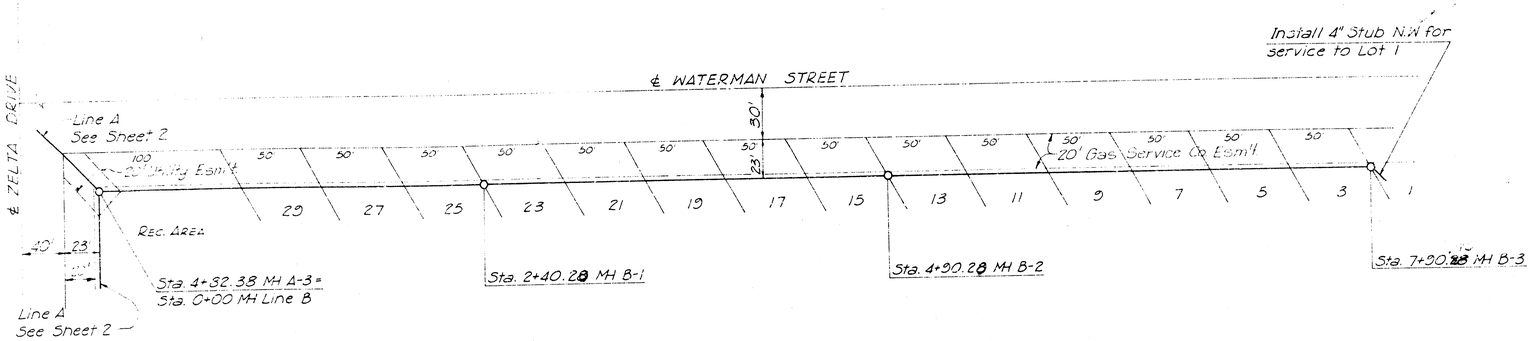
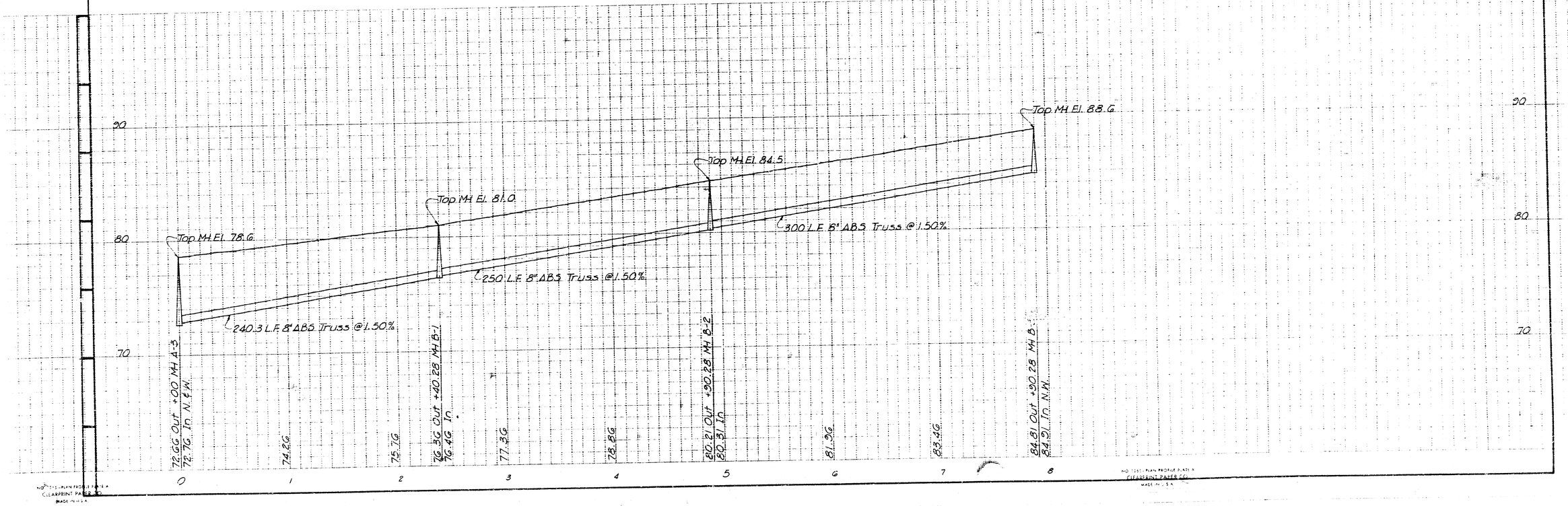
SCALE
PLAN: 1" = 40'
PROFILE: HORIZ. 1" = 40
" VERT. 1" = 4





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CLEARPRINT PAPER CO.
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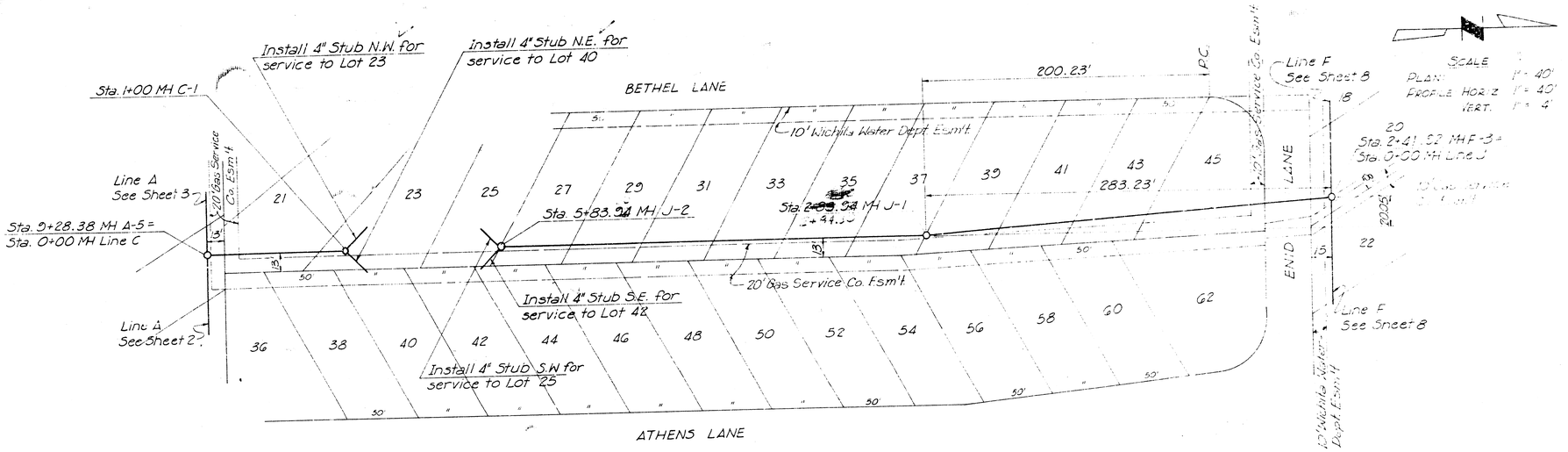

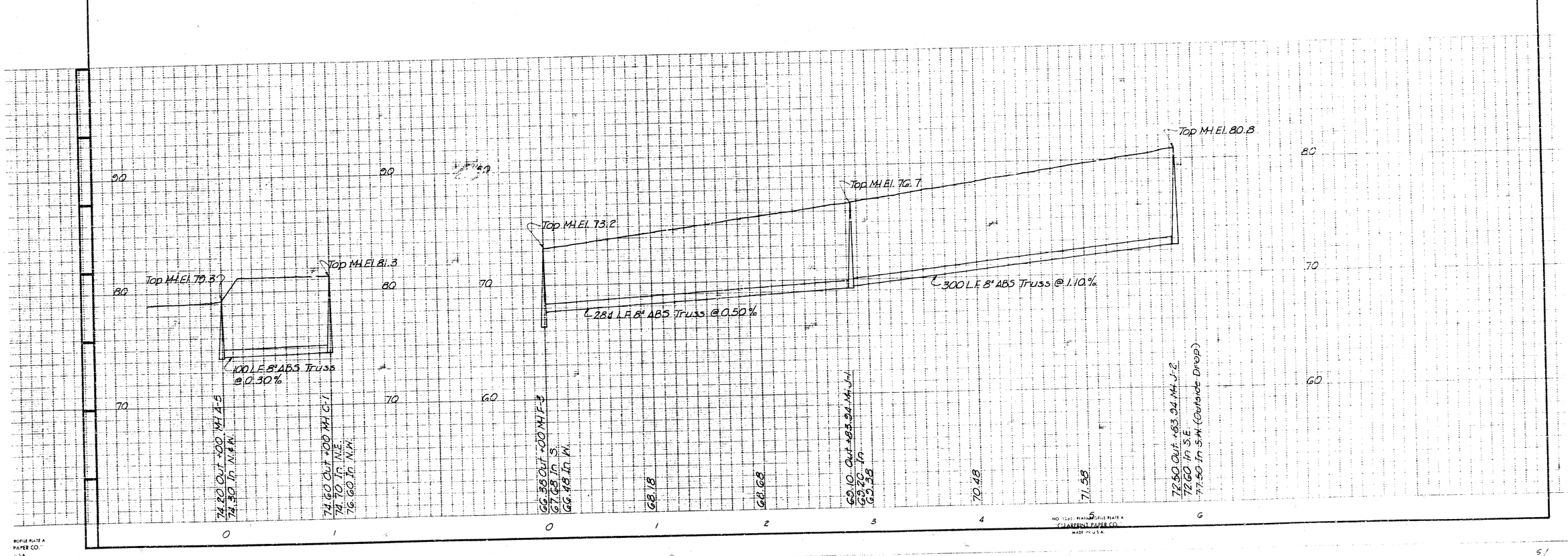

PROFILE PLATE A
PAPER CO.
U.S.A.
NO. 1201 PROFILE PLATE A
CHARPRINT PAPER CO.
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B.M. #3 - R.R. Spk. in L.P. 500' North of Waterman St. on West R. El. 85.56

B.M. #2 - R.R. Spk. in L.P. 500' South of Douglas Ave. on West R. El. 80.53

Install 4" Stub S.W. for service to Lot 17

Sta. 6+33.87 MH D-3

Sta. 4+94.43 MH D-2 = Sta. 0+00 MH Line E

Sta. 11+59.38 MH A-G = Sta. 0+00 MH Line D

Sta. 2+57 MH D-1

Install 4" Stub N.E. for service to Lot 28

Sta. 9+18.32 MH D-4

Install 4" Stub W. for service to Lot 31

10' Wichita Water Dept. Esm't

DOLL LANE

CHLOE LANE

BETHEL LANE

CHLOE LANE

20' Gas Service Co. Esm't

Line E See Sheet 7

Line A See Sheet 3

SCALE:
PLAN: 1" = 40'
PROFILE: HORIZ. 1" = 40'
VERT. 1" = 4'

Top MH El. 82.7
Top MH El. 82.2
Top MH El. 85.3
Top MH El. 85.2
Top MH El. 82.5

257 L.F. 8" ABS Truss @ 0.30%
237.5 L.F. 8" ABS Truss @ 0.30%
130.5 L.F. 8" ABS Truss @ 0.30%
284.5 L.F. 8" ABS Truss @ 0.30%

74.22 Out +00 MH A-G
75.09 In N.+W.
75.39
75.69
75.86 Out +57 MH D-1
75.96 In W. & N.E.
76.09
76.39
76.67 Out +94.43 MH D-2
76.77 In W. & N.
77.09
77.19 Out +33.87 MH D-3
77.29 In N.
81.10 In S.W. (Outside Drop)
77.49
77.79
78.09
78.15 Out +18.32 MH D-4
78.25 In W.

NO. 1245 PLAN & PROFILE PLATE A CLEARPRINT PAPER CO. MADE IN U.S.A.

249-D 6/14

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Sta. 4+34.43 MH D-2 = Sta. 0+00 MH Line E

Line D See Sheet G

Sta. 2+14.10 MH E-1

Sta. 4+39.10 MH E-2

Install 4" Stub N.W. for service to Lot 3G

Install 4" Stub N.E. for service to Lot 44

10' Gas Service Co. Esm't

20' Gas Service Co. Esm't

10' Wichita Water Dept. Esm't

LANE

CHLOE

CHLOE LANE

ENID LANE

Sta. 1+35.21 MH K-1

Sta. 4+35.21 MH K-2

Sta. 4+75.92 MH F-4 = Sta. 0+00 MH Line K

Line F See Sheet 9

Line F See Sheet 8

Line D See Sheet G

Install 4" Stub N.E. for service to Lot 28

Install 4" Stub S.W. for service to Lot 11

Install 4" Stub S.E. for service to Lot 30

SCALE
PLAN 1" = 40'
PROFILE HORIZ 1" = 40'
VERT 1" = 4'

Top MH El. 85.5

Top MH El. 84.1

Top MH El. 81.3

Top MH El. 76.3

Top MH El. 78.0

Top MH El. 82.2

214.1 L.F. 8" ABS Truss @ 0.30%

225 L.F. 8" ABS Truss @ 0.30%

135.3 L.F. ABS Truss @ 1.00%

570 L.F. ABS Truss @ 1.00%

76.67 Out +00 MH D-2
76.77 In N. & W.

77.07

77.37

77.42 Out +14.10 MH E-1
77.52 In

77.77

78.07

78.19 Out +35.10 MH E-2
78.25 In N.W. & N.E.

67.18 Out +00 MH F-4
70.05 In S.E. (Outside Drop)
67.28 In N.W.

71.05

71.40 Out +35.21 MH K-1
71.50 In

72.15

73.15

74.15

74.50 Out +35.21 MH K-2
74.60 In S.E.
78.50 In S.W. (Outside Drop)

NO. 1265 - PLAN PROFILE PLATE A
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Scale
Plan: 1" = 40'
Profile Horiz. 1" = 40'
Vert. 1" = 4'

Sta. 0+82.52 MH F-2 = Sta. 0+00 MH Line H

Sta. 0+00 MH F-1 = Sta. 0+00 MH Line G

Pump Lift Station See Sheet 11 for Details

4" PVC Force Main & Line G, See Sheet 10

LANE

BETHEL LANE

Line J See Sheet 5

Line K See Sheet 7

10' Gas Service Co. Esm't

ENID LANE

Line F See Sheet 9

10' Wichita Water Dept Esm't

60'

26'

6'

15'

Sta. 1+36.80 ℄ Prop. St. Sewer

Sta. 3+24.02 ℄ Prop. St. Sewer

22 20 18 16 14 12 10

24

Reinforced Concrete Encasement

℄ ZELTA DRIVE

10' Gas Service Co. Esm't

G7

G9

5' Depot Esm't

ATHENS

10' Wichita Water Dept Esm't

10' Gas Service Co. Esm't

10' Gas Service Co. Esm't

Reinforced Concrete Encasement

℄ Drainage Easement

Sta. 2+41.92 MH F-3 = Sta. 0+00 MH Line J

Sta. 4+75.92 MH F-4 = Sta. 0+00 MH Line K

Install 4" Stub N.E. for service to Lots 71 & 73

Install 50 L.F. 4" ABS Solid Wall @ 4% Ft. N.W. for service to Lots 70 & 72

Sta. 1+41 MH H-1

B.M. #1 - City of Wichita B.M. disc. 32' W. & 38' N. of ℄ intersection of Zelta Dr. & Douglas Ave. El. 69.89

Top MH El. 71.0

Top MH El. 71.0

.05 ℄ Drainage Esm't

℄ El. = 63.60

3'

141 L.F. 8" ABS Truss @ 0.30%

30' 30'

Reinf. Concrete Encasement

58.67 Out +00 MH F-2
58.77 In N.
63.19 In W. (Outside Drop)

59.07

59.19 Out +41 MH H-1
66.00 In N.W. (Outside Drop)
63.80 In N.E. (Outside Drop)

Ground Line El. 71.6

Top MH El. 71.0

Top MH El. 73.2

Top MH El. 76.3

Pump Lift Station

21" St. Sewer ℄ = 67.29

30" St. Sewer ℄ = 69.04

234 L.F. 8" ABS Truss @ 0.30%

10 10

150.4 L.F. 8" ABS Truss @ 2.00%

Reinf. Concrete Encasement

82.6 L.F. 8" ABS Truss @ 0.30%

67.00 Out +00 MH F-1
58.42 In N.W.
67.53 In S.

58.67 Out +82.52 MH F-2
63.19 In W. (Outside Drop)
62.24 58.77 In N.

67.27 ℄ 21" Storm Sewer +36.82

65.54

66.38 Out +41.92 MH F-3
66.48 In W.
67.68 In S.

66.65

66.73 ℄ 30" Storm Sewer +24.02

66.95

67.18 Out +75.92 MH F-4
67.28 In W.
70.05 In S.E. (Outside Drop)

70
60
50

0 1 2 0 1 2 3 4 5

NO 1265 - PLAN-PROFILE PLATE A
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8/14

240-5

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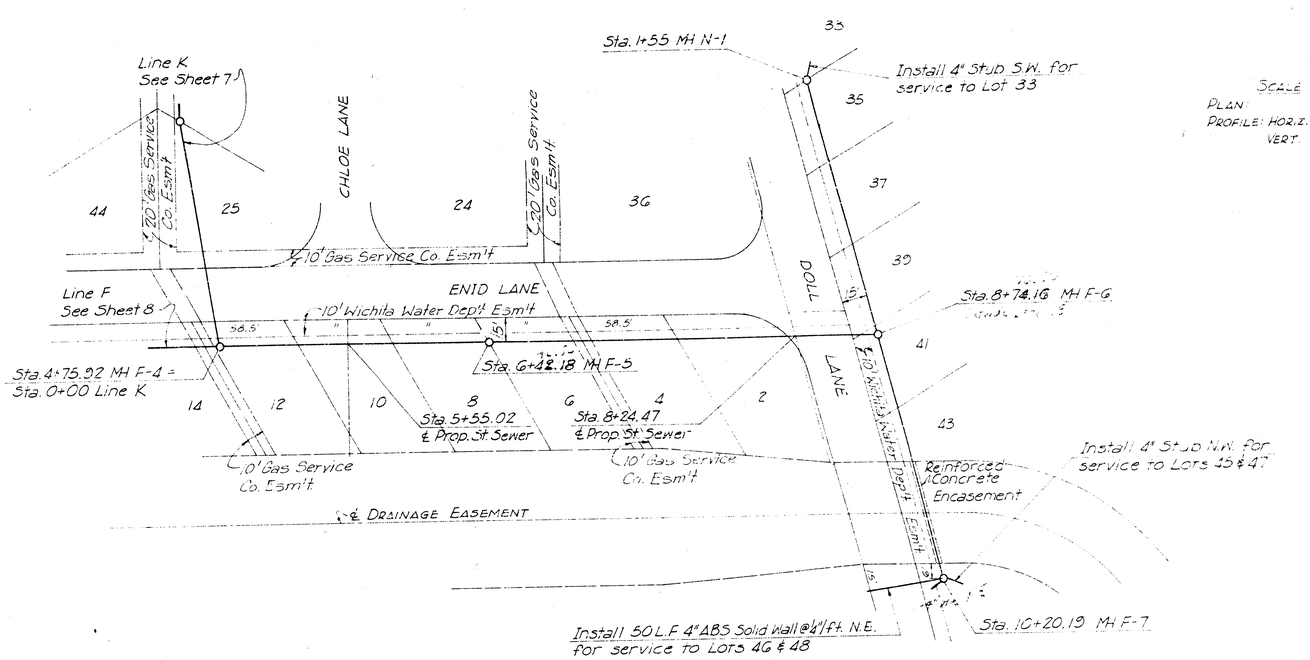

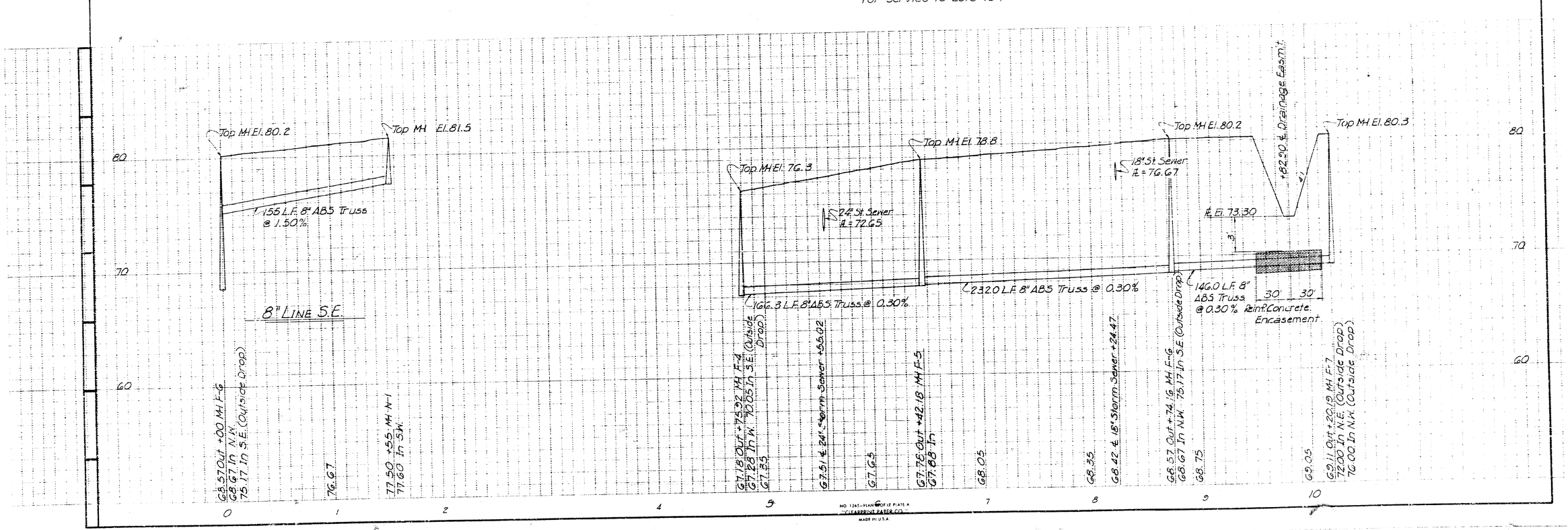

NO. 1265—PLAN & PROFILE PLATE A
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249-D 9/14

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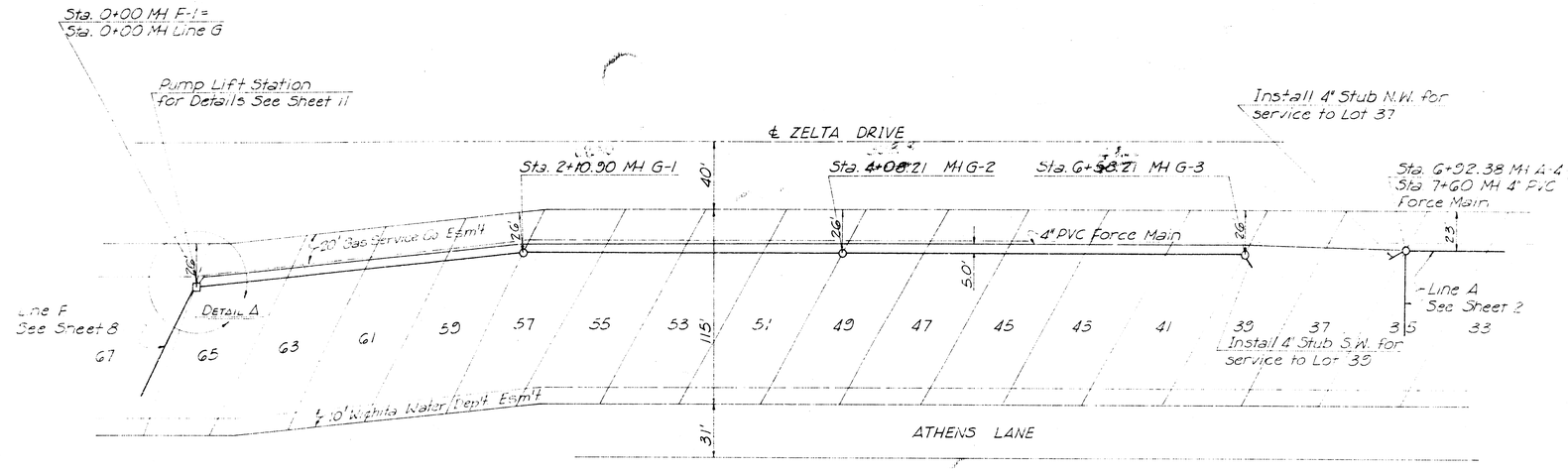
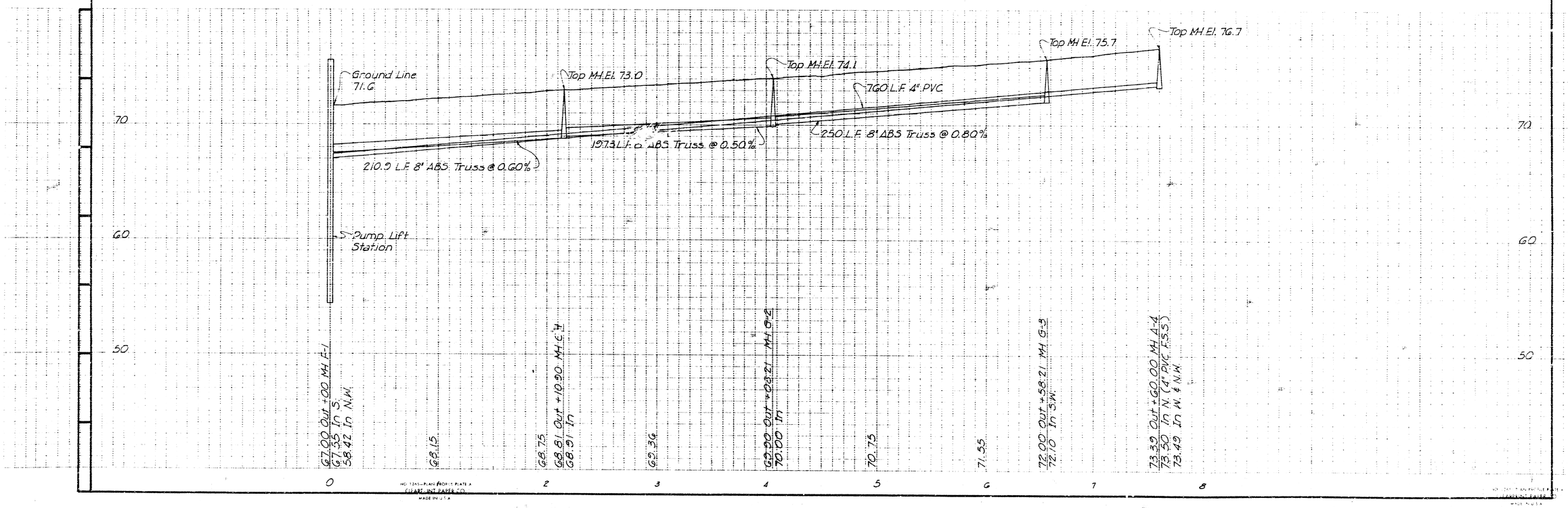
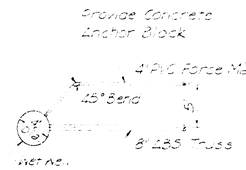




Scales
Plan 1" = 40'
Profile Horiz. 1" = 40'
Vert. 1" = 4'



DETAIL A

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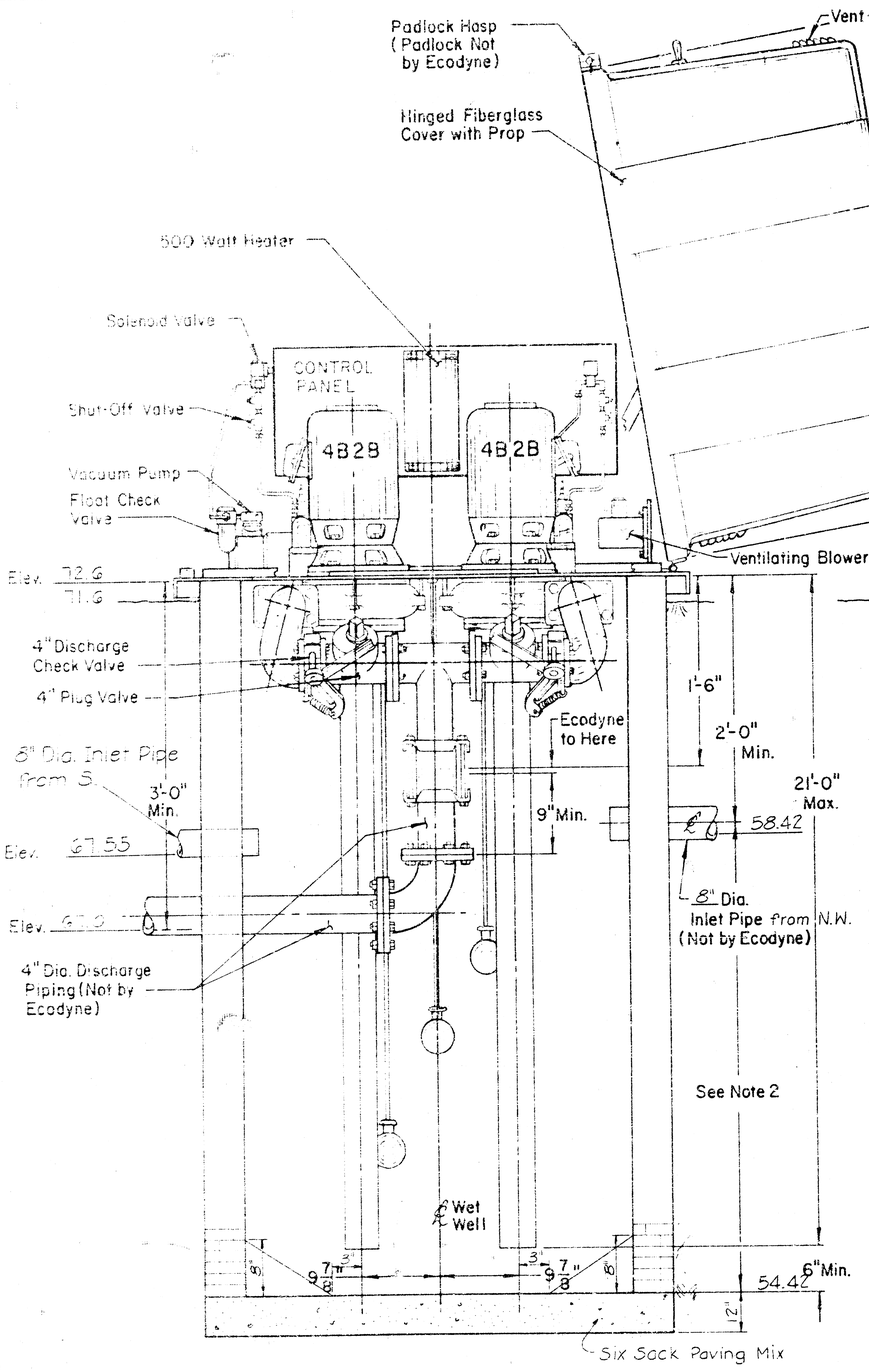

NOTES -

1. Maximum Capacity – 300 G.P.M.
2. Volume in Gallons Between L.L. "ON" and L.L. "OFF" Should Equal Pumping Rate in G.P.M.
3. If End of Discharge Line is Below Elevation of Discharge Line at Point of Leaving Wet Well, Consult Factory.
4. If Discharge Line is Less than 200 Feet in Length a Check Valve May Be Required – Consult Factory.
5. Wet Well Manhole shall be 12" Brick Masonry.
6. Reinforcing Steel shall be installed in the Wet Well Manhole base 6 above the bottom. Reinforcing Steel shall consist of No. 4 bars placed on 6' centers in both directions. The cost of reinforcing steel is to be included in the price bid for the wet well manhole.

87DIII

	WFN 6-77	ECODYNE Smith & Loveless Division
	EAM 6-77	WET WELL MOUNTED SEWAGE PUMP LIFT STATION 4" PIPING - 4' DIA. WET WELL
	CV 11-77	Ed.
	none	87DIII
	N76-57 P	

(Was 86DI04)

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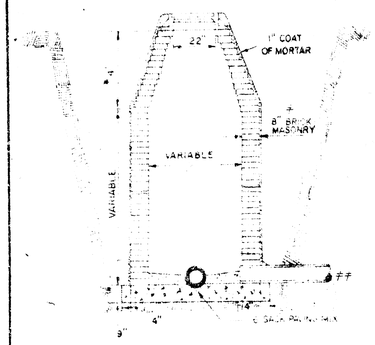
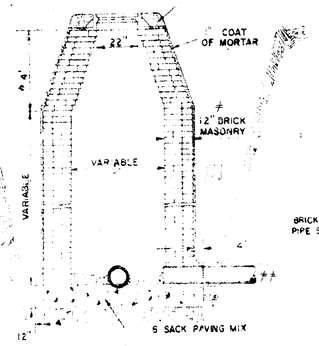


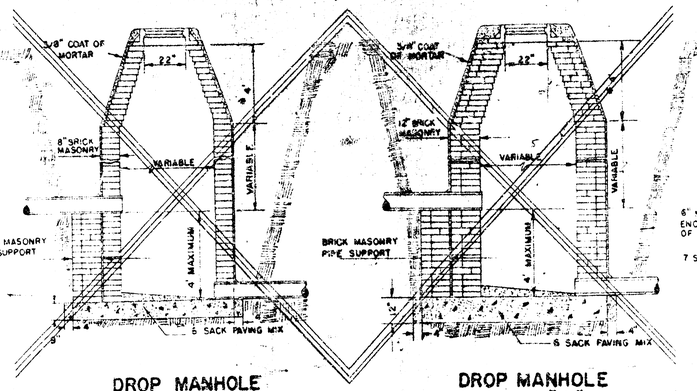
STANDARD MANHOLE
TYPE "A"

* DRAW = 6' ON 5' DIA. M.H.

GROUT TO BE PLACED AROUND MANHOLE RING ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS. (TYPICAL ALL MANHOLES)

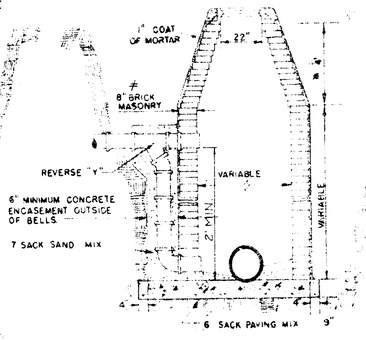


STANDARD MANHOLE
TYPE "B"

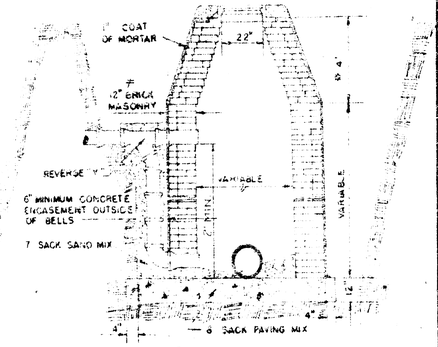


DROP MANHOLE
TYPE "A"

DROP MANHOLE
TYPE "B"

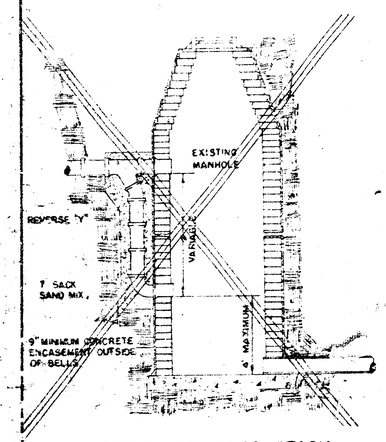


OUTSIDE DROP MANHOLE
TYPE "A"



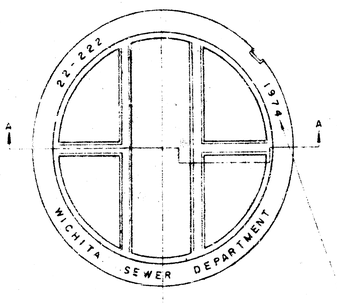
OUTSIDE DROP MANHOLE
TYPE "B"

NOTE : REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.



DETAIL OF DROP STACK

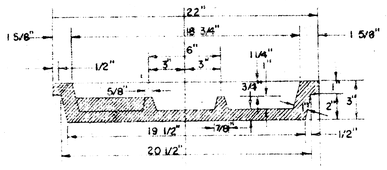
FOR EXISTING MANHOLES IN GROUND WATER



TOP VIEW

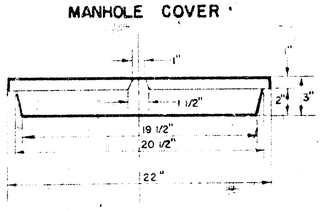
MANHOLE COVER

WEIGHT 110 LBS.



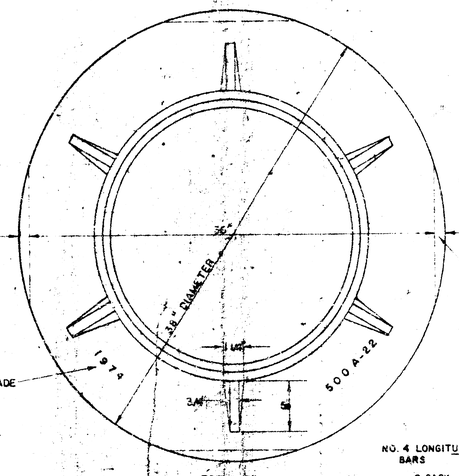
SECTION A-A

MANHOLE COVER



SIDE VIEW

MANHOLE COVER



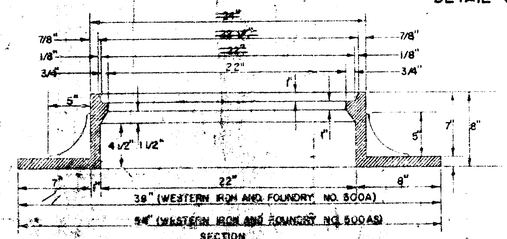
YEAR CASTING IS MADE

TOP VIEW

MANHOLE RING

WEIGHT 326 LBS. RING NO. 500A

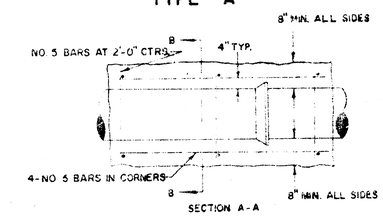
WEIGHT 500 LBS. RING NO. 500AS



SECTION

MANHOLE RING

OUTSIDE CIRCUMFERENCE OF COVER AND THE INNER FACE AND SEAT OF RING TO BE MACHINE FIT.

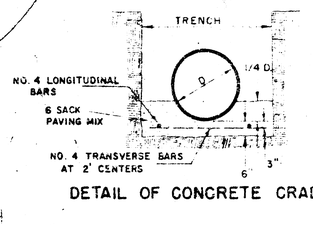


REINFORCED CONCRETE ENCASEMENT

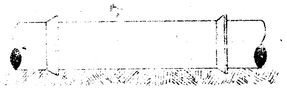
NOTE : CONCRETE ENCASEMENT AND CONCRETE CRADLE SHALL BEGIN AND END AT A JOINT WHEN CLAY PIPE IS USED.

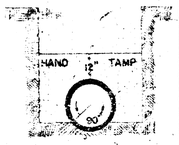
* The minimum manhole wall thickness for brick manholes shall be: at a depth of 0'-16' = 8", at a depth of 16' or greater = 12".

** All sewers constructed of rigid or semi-rigid pipe extending from all manholes shall be encased with concrete for a distance of three feet from the outside wall of the manhole. This support may be deleted if a flexible, watertight gasket is used to connect the sewer to the manhole. No support is required for sewers constructed of flexible pipe.



DETAIL OF CONCRETE CRADLE





ORDINARY BEDDING METHOD *

STORM SEWER PIPE

* IMPROVED BEDDING FOR ABS PIPE SHALL CONFORM TO ASTM D2321-74.

GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD.
- STANDARD MANHOLES TYPE 'A' OR TYPE 'B' AND STANDARD DROP MANHOLES TYPE 'A' OR TYPE 'B' SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE. MANHOLES WITH PIPE SIZES LARGER THAN 24" SHALL BE 5' DIAMETER.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO INCREASE HYDRAULIC EFFICIENCY USING 8 SACK SAND MIX CONCRETE.
- PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. COST OF CRADLE WITHIN MANHOLE EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE MANHOLE. CRADLE SHALL EXTEND TO FIRST JOINT OUTSIDE OF MANHOLE WHEN CLAY PIPE IS USED.
- CAST-IN-PLACE MANHOLES, AS REFERENCED IN THE SPECIFICATIONS, MAY BE CONSTRUCTED AS AN ALTERNATE TO BRICK MANHOLES PROVIDING THE WALL AND BASE ARE POURED MONOLITHICALLY.

REVISED 4-13-77

DETAILS OF

SEWER APPURTENANCES

ADOPTED AS STANDARD DESIGN

BY

ENGINEERING DIVISION

CITY OF WICHITA, KANSAS

R. W. LINN CITY ENGINEER

1974

249-D-208

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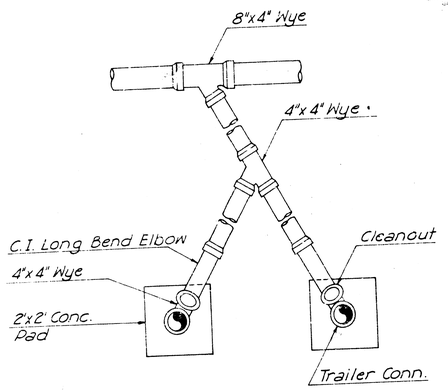
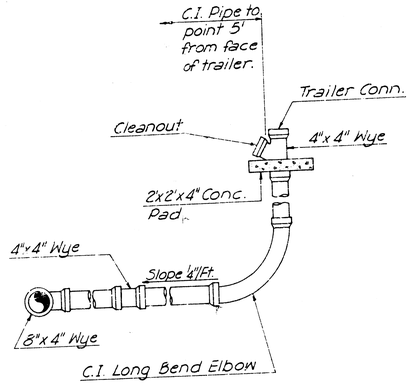


PLAN



ELEVATION

TYPICAL SERVICE CONNECTION

This drawing for information only. Individual service connections for mobile homes will be by separate contract.

TABLE OF MANHOLES

MANHOLE IDENTIFICATION	TYPE	DESCRIPTION
A-1	1	STANDARD
A-2	1	STANDARD
A-3	1	STANDARD
A-4	1	STANDARD
A-5	1	STANDARD
A-6	1	STANDARD
A-7	1	STANDARD
A-8	1	OUTSIDE DROP
B-1	1	STANDARD
B-2	1	STANDARD
B-3	1	STANDARD
B-4	1	STANDARD
C-1	1	STANDARD
C-2	1	STANDARD
C-3	1	OUTSIDE DROP
D-1	1	STANDARD
D-2	1	STANDARD
D-3	1	STANDARD
D-4	1	STANDARD
E-1	PUMP LIFT STATION	PRESSURE
E-2	1	OUTSIDE DROP
E-3	1	STANDARD
E-4	1	OUTSIDE DROP
E-5	1	STANDARD
E-6	1	OUTSIDE DROP
E-7	1	OUTSIDE DROP
F-1	1	STANDARD
F-2	1	STANDARD
F-3	1	STANDARD
G-1	1	OUTSIDE DROP
H-1	1	STANDARD
I-1	1	STANDARD
I-2	1	OUTSIDE DROP
J-1	1	STANDARD
K-1	1	STANDARD
L-1	1	STANDARD
M-1	1	STANDARD
N-1	1	STANDARD

GENERAL NOTES

This project shall be constructed in accordance with the latest Specifications for Sanitary and Storm Sewers of the Department of Public Works of the City of Wichita as located or noted on the plans, and shall conform to all requirements of the Standards of Design for Water & Sewer Facilities, effective September, 1978. Wherever the Specifications and the Standards conflict, the requirements of Standards shall govern.

All sanitary sewer construction shall be tested for infiltration and shall be tested for alignment, deflection, infiltration and deficiencies by and at the expense of the contractor prior to acceptance. Any defects shall be corrected by the Contractor without additional compensation to a condition and or retested after repairs are made by the contractor. All testing shall conform with the Minimum Standards of Design, Chapter VII, Sections 2.1, 2.2 and 2.3.

All potable water supplies shall be protected in accordance with the Minimum Standards of Design, Chapter II, Section 3.11 and 3.12.

Excavation, sand backfill and or flushing will not be paid for separately, the cost of this work will be included in the unit price bid for sewer pipe.

All trees, brush, etc. shown shall be cut down unless otherwise indicated. They will not be paid for directly but shall be subsidiary to the construction of manholes.

Excess dirt to be wasted on site as directed by the engineer.

SUMMARY OF QUANTITIES

ITEM	QUANTITY	UNIT
4" PVC	760	L.F.
4" ABS Solid Wall Pipe	100	L.F.
8" ABS Truss Pipe	7,121.4	L.F.
Reinf. Conc. Encasement	140	L.F.
Type A Standard Manhole	26	Each
Type A Outside Drop Manhole	9	Each
Wet Well Mounted Sewage Pump Lift Station	Lump Sum	L.S.

ENVIRONMENTAL ENTERPRISES INC.
CECIL MASTERS, PRES.; PAUL TREADWELL, SEC.-TREAS.

LIFESTYLE MOBILE HOME PARK

AUXILIARY DETAILS

DELAMARE R. FREUND & ASSOCIATES, P.A.
ENGINEERS & ARCHITECTS
WICHITA, KANSAS

SCALE | DATE December 1978 | DWG NO. 249-D-209

13/14

SURV. | PLOT. | DES. | DR. | TR. | CKD. | APP.

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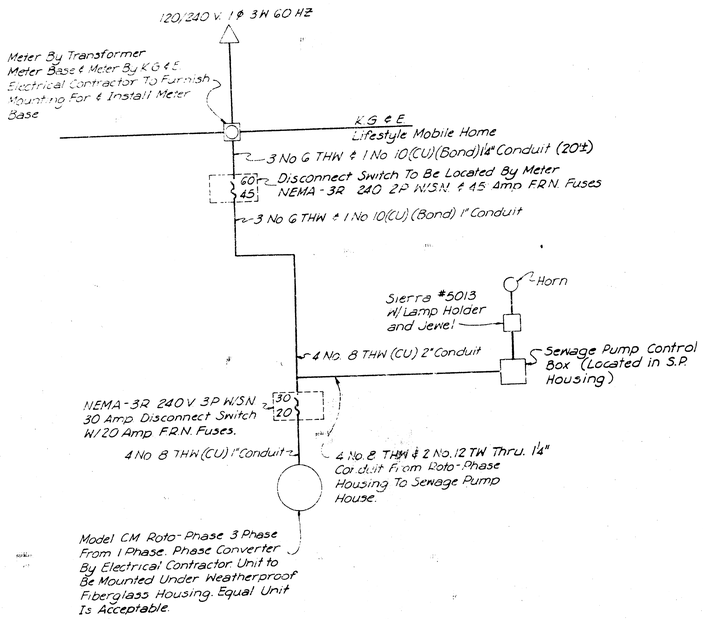
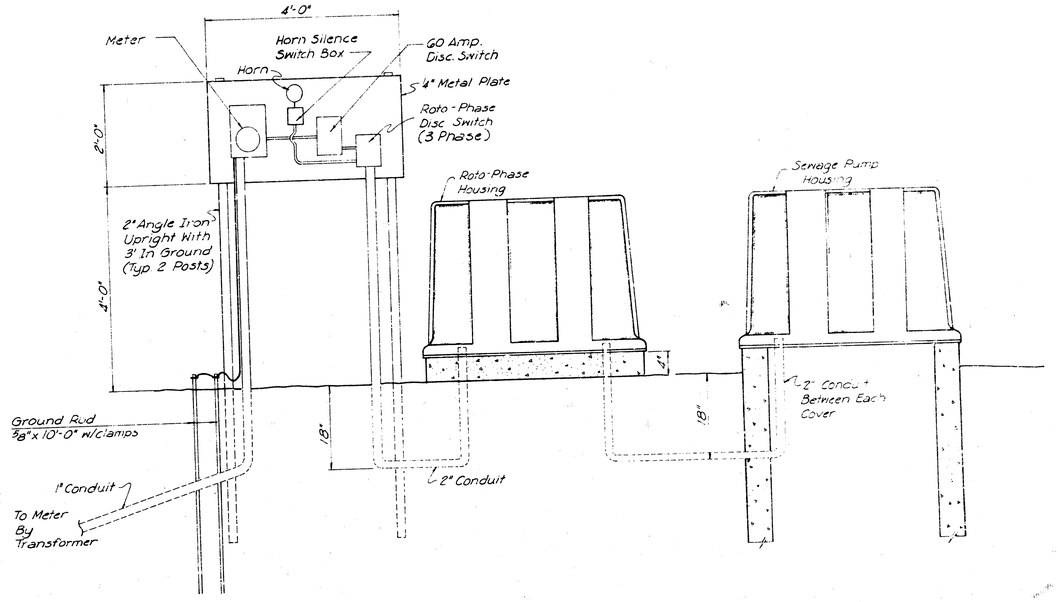
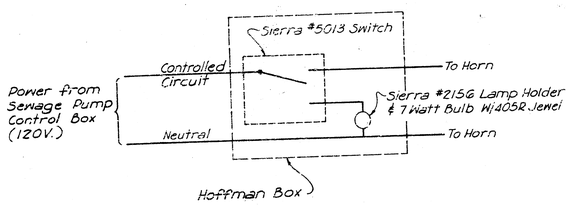


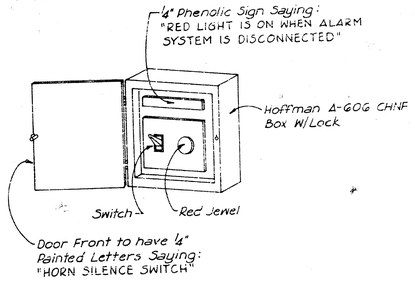
ONE LINE DIAGRAM

NOTE:
Horn to be furnished by others and installed by Electrical Contractor.





HORN SILENCE SWITCH WIRING DIAGRAM



HORN SILENCE SWITCH BOX DETAIL

ENVIRONMENTAL ENTERPRISES INC.
CECIL MASTERS, PRES.; PAUL TREADWELL, SEC.-TREAS.

LIFESTYLE MOBILE HOME PARK

ELECTRICAL DETAILS

DELAMATER, FREUND & ASSOCIATES, P.A.
ENGINEERS & ARCHITECTS
WICHITA, KANSAS

SCALE —— DATE December 1978 DWG. NO. 245-D-210

14/14

APP. CKD. TR. DR. DES. PLOT. SURV.

kenny

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