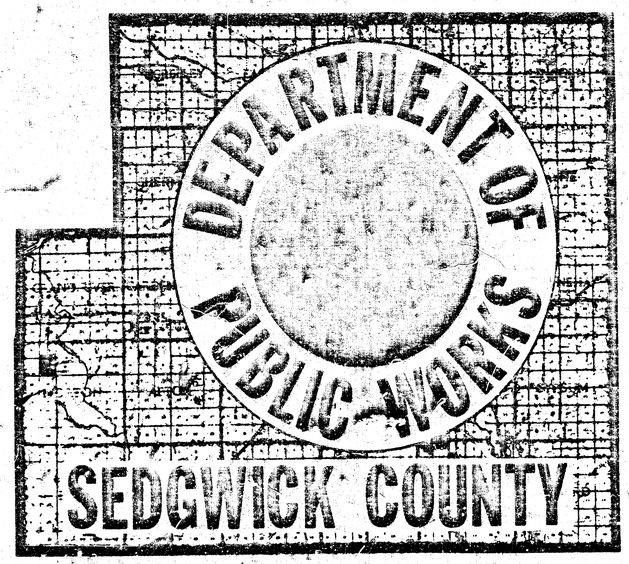
INDEX OF SHEETS

SHEET NO.	1	TITLE SHEET
	2-5	FORCE MAIN
	6	PUMP STATION
	7,7a	DETAIL SHEET
	8	MANHOLE STANDARD



CONSTRUCTION PLANS FOR SANITARY SEWER EXTENSIONS

PUMPING STATION & FORCE MAIN

FOR

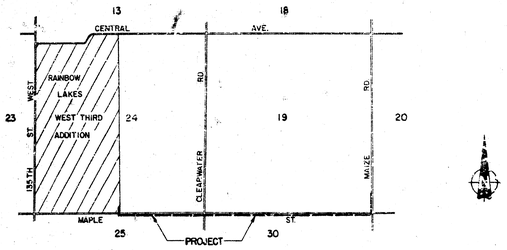
RAINBOW LAKES WEST THIRD ADDITION TO SEDGWICK COUNTY, KANSAS

CITY OF WICHITA PROJECT NO 542-80-245-80032-000-000-003

REISS AND GOODNESS ENGINEERS

WICHITA, KANSAS

1981



As Built
10/82
J.L.

PLANS PREPARED BY

REISS & GOODNESS ENGINEERS
2160 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832 0123

DATE 2-6-81

FILED

FILED IN THE OFFICE OF
THE SEDGWICK COUNTY CLERK

Dorothy K. Whitted 2-12-81
COUNTY CLERK DATE

APPROVED

L. C. Freeman
COUNTY ENGINEER/DIRECTOR OF PUBLIC WORKS

DATE 2-23-81

R.W. Bruggeman
CITY ENGINEER, CITY OF WICHITA, KANSAS

DATE 2-12-81

APPROVED DATE

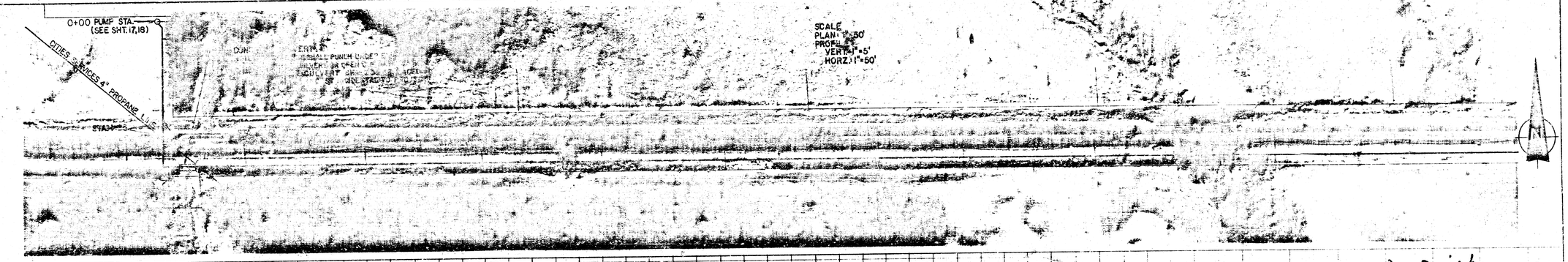
Donald E. Hoggs 3-3-81
CHAIRMAN
BOARD OF COUNTY COMMISSIONERS

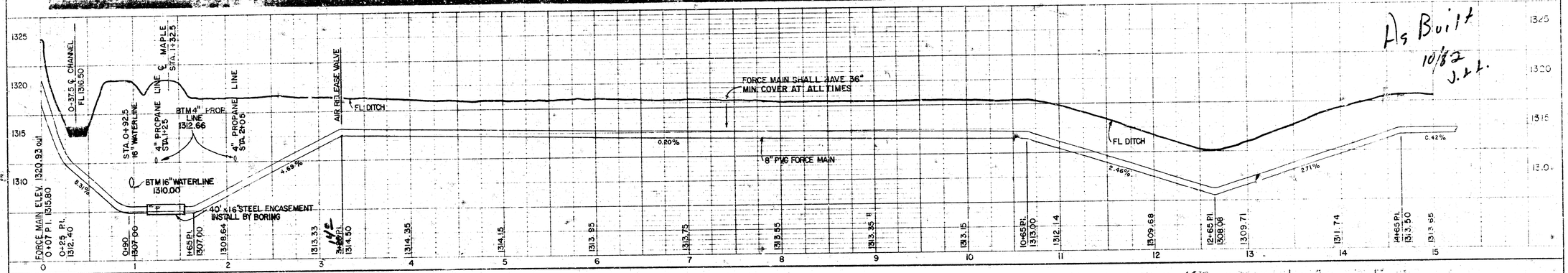
1/9

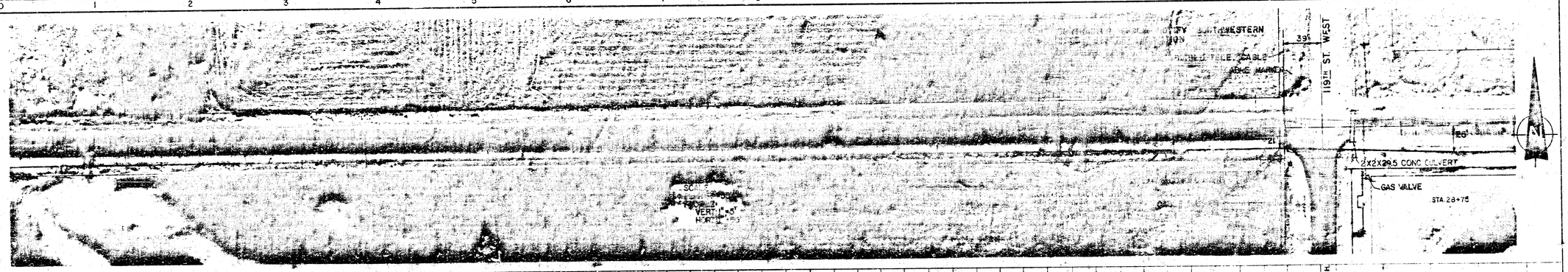
PLAN

NOTE BOOK

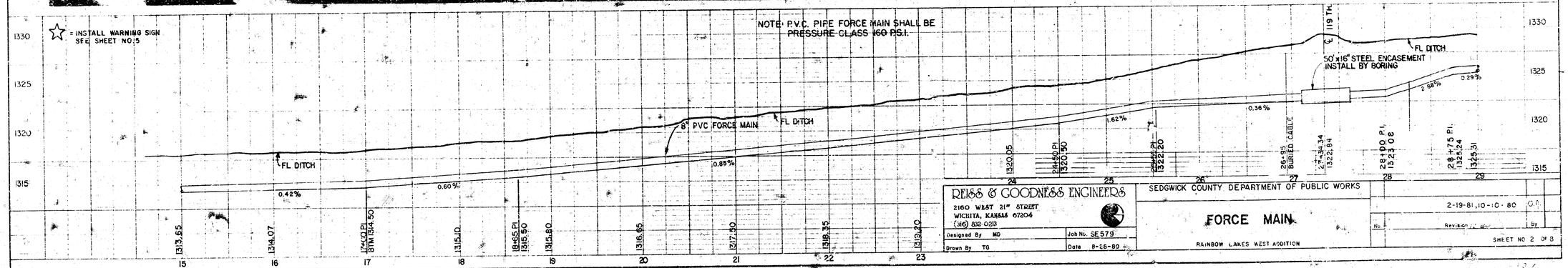
No.







PROFILE



REISS & GOODNESS ENGINEERS
2160 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832-0213
Designed By MD
Drawn By TG
Job No. SE 579
Date 8-26-80

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

FORCE MAIN

RAINBOW LAKES WEST ADDITION

2-19-81, 10-10-80

No. Revision / Date By

SHEET NO 2 OF 3

K+E PLATE 2, FLAT PLAN PROFILE
KEUFFEL & ESSER CO.
48 7032 MADE IN U.S.A.

SCALE
PLAN: 1"=50'
PROFILE:
VERT.: 1"=5'
HORZ.: 1"=50'

CONTRACTOR SHALL NOTIFY GAS SERVICE CO. PRIOR TO ANY EXCAVATION

119TH ST. WEST

CLEARWATER RD.

DEAD END 8' N. OF S. PL. 32' E. OF ℄

MAPLE

STA. 26+89

21'

25'

STA. 28+73

8' N. OF S. PL. & 42' E. OF CL.

6" STEEL GAS LINE

6" GAS VALVE

9" STEEL GAS LINE

PL.

CEDAR CREST RD.

13'x2' CONC. CULVERT

PARKRIDGE

DEAD END

6" STEEL GAS LINE

STREET

STA. 38+54

25'

4x4x4 TEE 21'S. OF ℄

DEAD END

2'S OF ℄ OF ROAD & W. OF E. PL

2'x2'x30' CONC. CULVERT

PL.

4" STEEL GAS LINE

272' W. OF W. OF PL. & 8' N. OF S. PL.

PARKRIDGE

2"

*INSTALL WARNING SIGN SEE SHEET NO.5

1335
1330
1325

℄ CEDAR CREST STA. 33+75

STA. 38+54.6 (ASL) 1228.60

FORCE MAIN SHALL HAVE 36" MIN. COVER AT ALL TIMES

FL DITCH

0.29%

0.13%

8" PVC FORCE MAIN

3.12%

0.62%

29	30	31	32	33	34	35	36	37	38	39	40	41
1325.31	1325.61	20+65 P.I. 1325.80	1325.87	1325.97	1326.11	1326.24	1326.37	1326.51	1326.64	1326.77	38+75 P.I. 1326.87	39+40 P.I. 1328.110	1329.27	1329.89

As Built
J.L.L.
10/82

SCALE:
PLAN: 1"=50'
PROFILE:
VERT.: 1"=5'
HORZ.: 1"=50'

SHEFFORD ST.

2'x24" CMP CULVERT

MAPLE

4" STEEL GAS LINE

2" STEEL

25'

25'

2'x24" CMP CULVERT

1335
1330
1325

STA. 46+65 AIR RELEASE

℄ SHEFFORD

GAS LINE

FL DITCH

8" PVC FORCE MAIN

0.62%

0.22%

1.37%

1.85%

℄ PARKRIDGE

41	42	43	44	45	46	47	48	49	50	51	52	53	54
1329.89	1330.51	1331.14	1331.76	1332.38	1333.00	46+99 P.I. 1333.50	47+75 1333.29	48+65 P.I. 1333.10	1332.27	1331.24	1329.87	1328.50 P.I.	1326.65	1324.80 P.I.

REISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832-0215
Designed By MD
Drawn By TG
Job No. SE 579
Date 8-29-80

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

FORCE MAIN

RAINBOW LAKES WEST ADDITION

No.	Revision	By
1	2-19-81, 10-40-80	D.A.

SHEET NO. 3 OF 8

PLAN
NOTE BOOK
No.

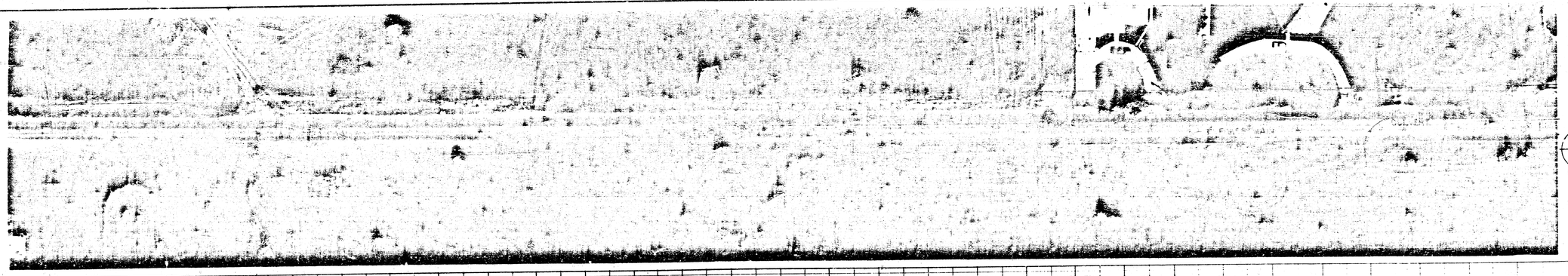
PLATE 7, FLAT PLAN PROFILE
K+E KEUFFEL & ESSER CO.
46 7032 MADE IN U.S.A.

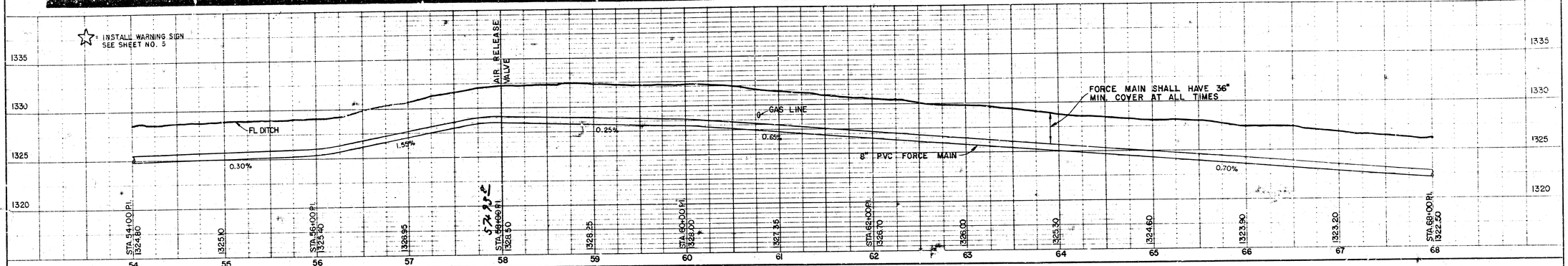
3/9

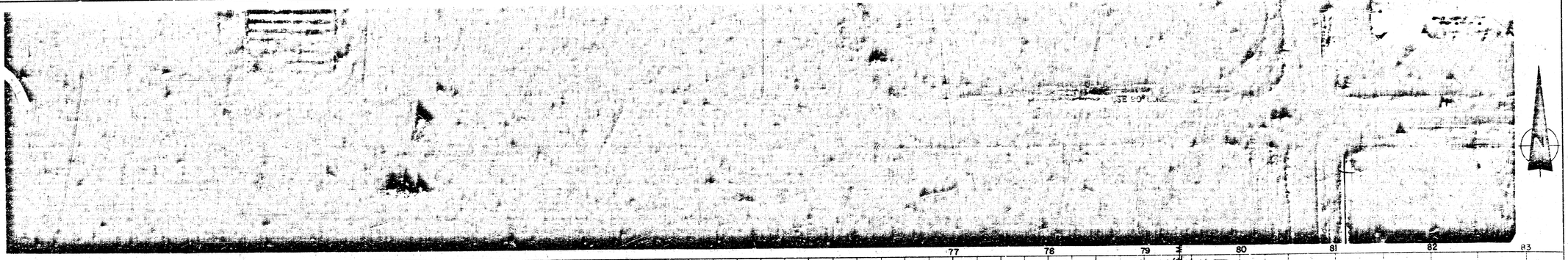
PLAN

NOTE BOOK

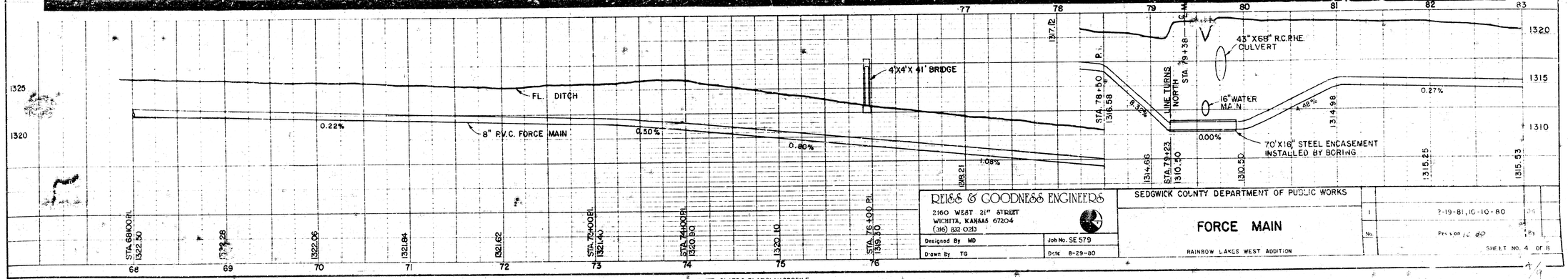
No.







PROFILE



REISS & GOODNESS ENGINEERS
2160 WEST 21st STREET
WICHITA, KANSAS 67204
(316) 832 0213

Designed By MD | Job No. SE 579
Drawn By TG | Date 8-29-80

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

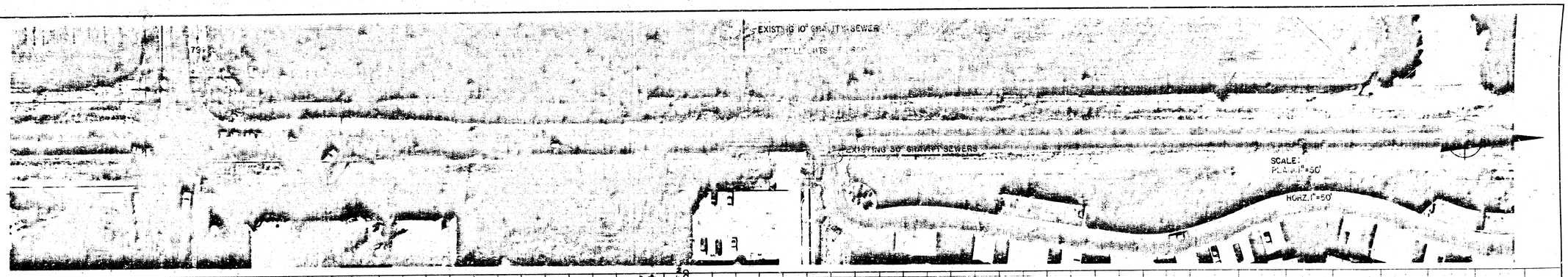
FORCE MAIN

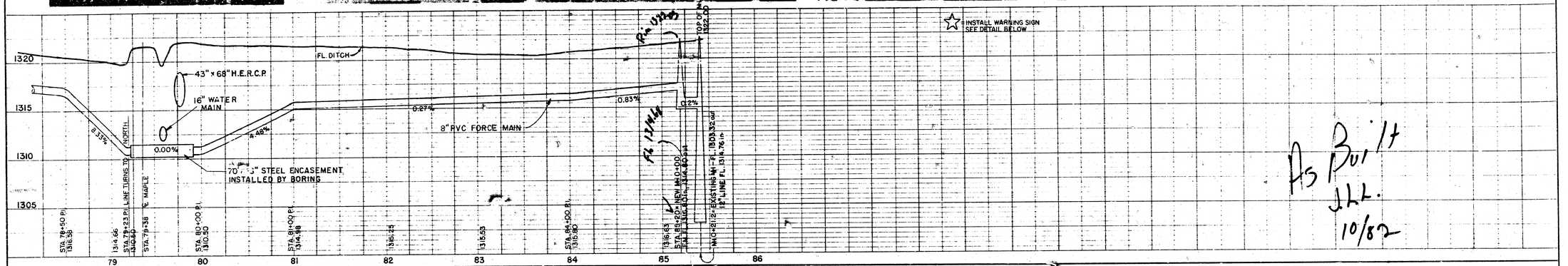
RAINBOW LAKES WEST ADDITION

No.	Revision	By
1	2-19-81, 10-10-80	

SHEET NO. 4 OF 8

K+E PLATE 2, FLAT PLAN-PROFILE
KEUFFEL & ESSER CO.

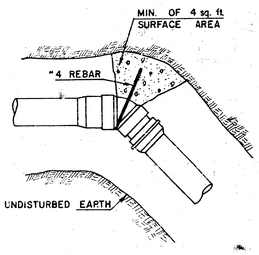




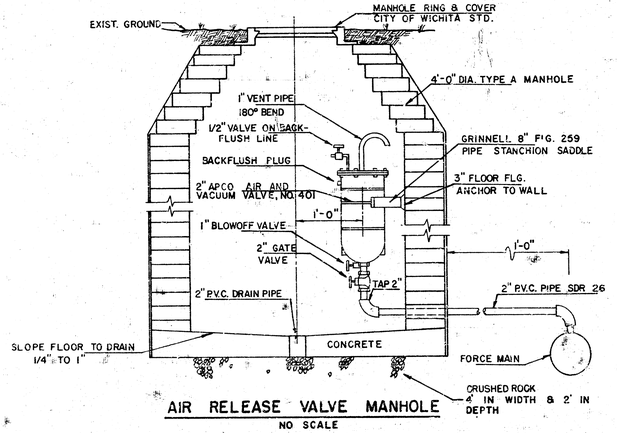
☆ = INSTALL WARNING SIGN SEE DETAIL BELOW

As Built
J.L.
10/82

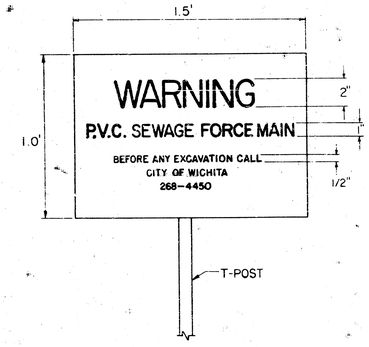
NOTES:
1. EXISTING MANHOLE IS A PLASTIC LINED TYPE D MANHOLE. THE OUTSIDE DROP INSTALLATION INTO THIS MANHOLE MUST MAINTAIN INTEGRITY OF PROTECTIVE PLASTIC LINING. SET CROWN OF BOTTOM OPENING TO MATCH CROWN OF 15" PIPE FLOWING OUT.
2. A FLEXIBLE WATER TIGHT GASKET SHALL BE USED TO CONNECT PVC PIPE TO MANHOLE 0+00



THURST BLOCK DETAIL
NO SCALE



AIR RELEASE VALVE MANHOLE
NO SCALE



WARNING SIGN DETAIL
SCALE: 1"=5"

REISS & GOODNESS ENGINEERS
2160 WEST 21st STREET
WICHITA, KANSAS 67204
(316) 832-0213

Designed By MD | Job No. SE 579
Drawn By TG | Date 8-29-80

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

FORCE MAIN

RAINBOW LAKES WEST ADDITION

No. 1 — 2-19-81, 10-10-80 — By

Revision / 6/81 / EII

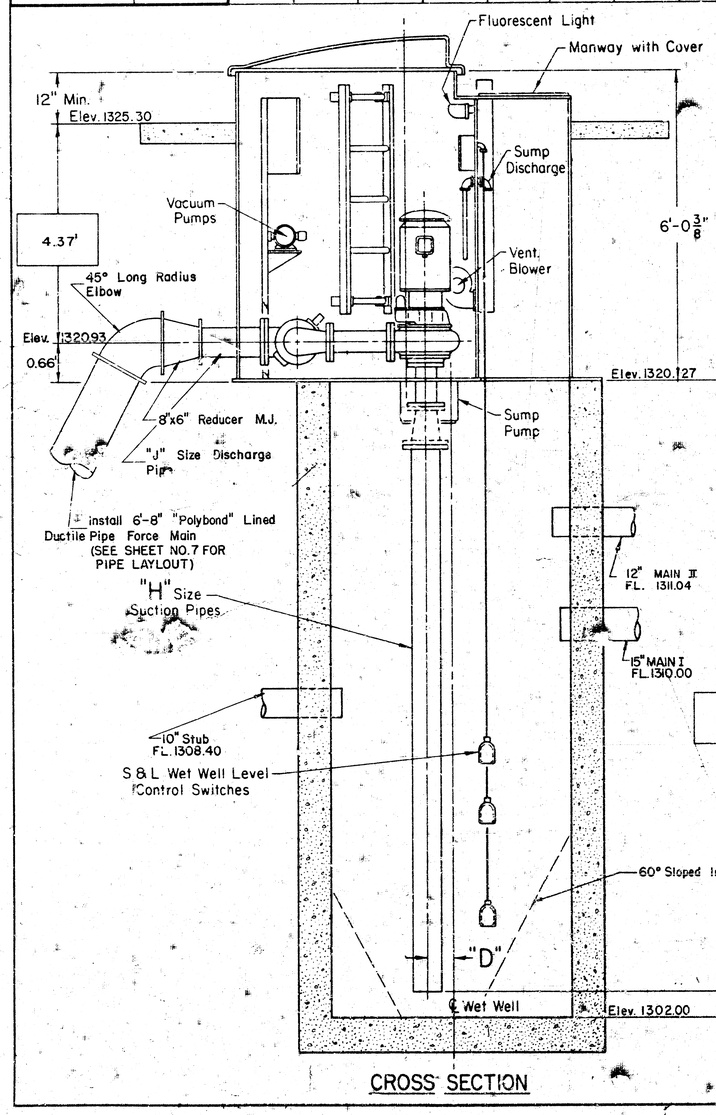
SHEET NO 5 OF 8

5/9

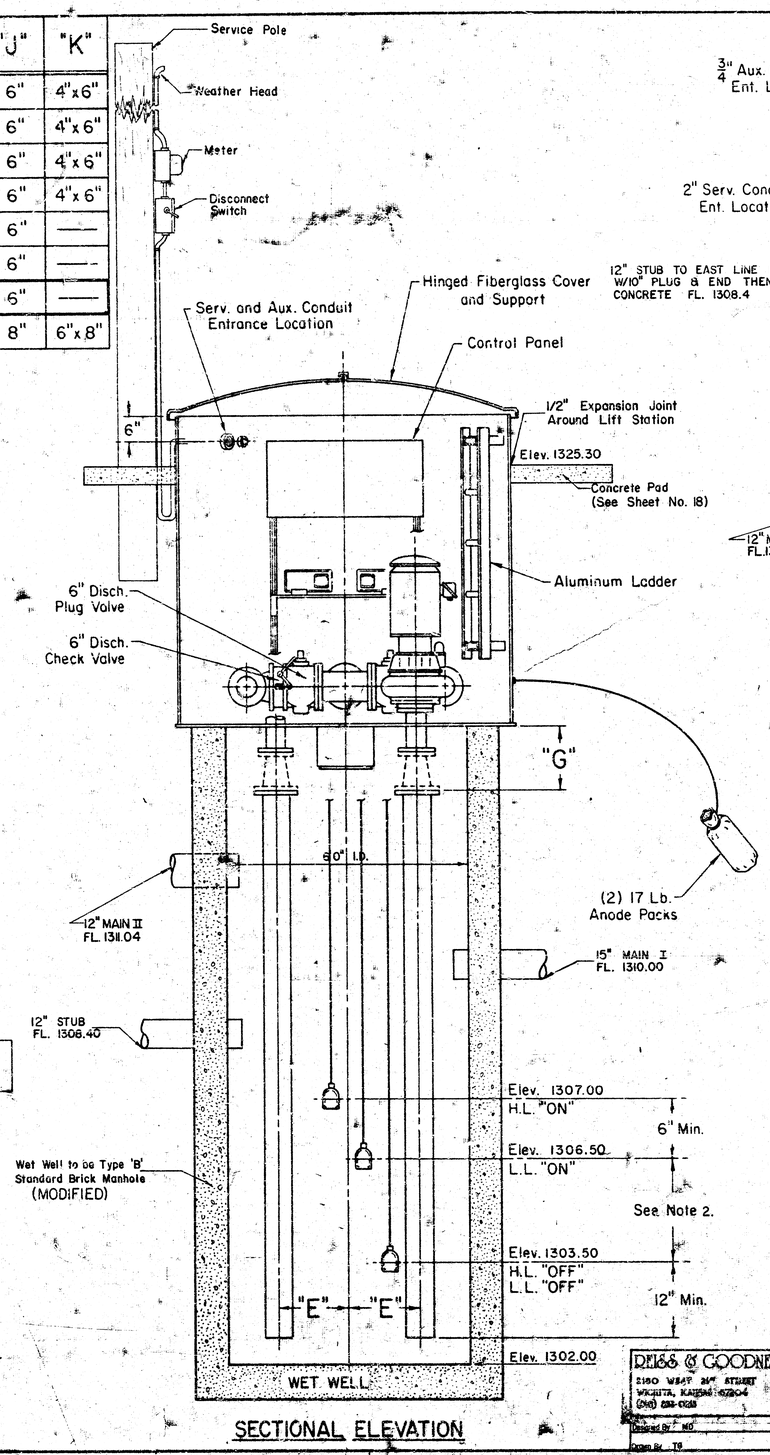
PROFILE — DRAWN — NOTE BOOK — No. — DATE — BY

K+E PLATE 2, FLAT PLAN-PROFILE
KEUFFEL & ESSER CO.

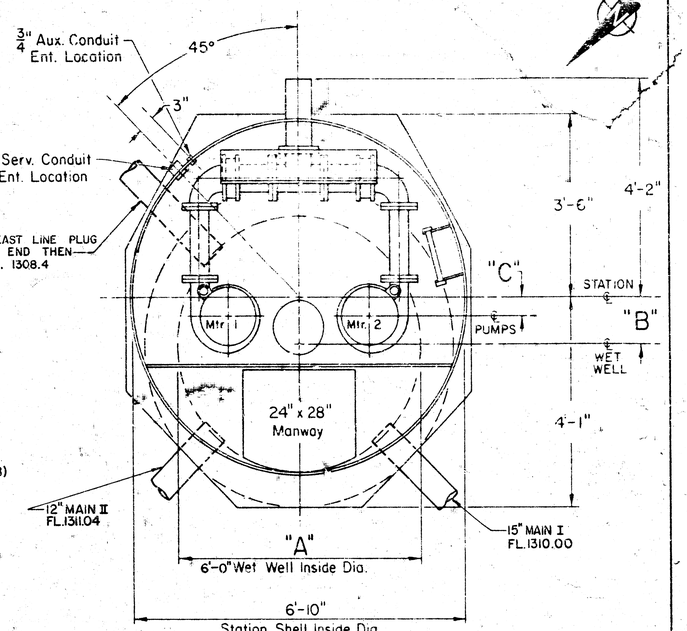
PUMPS	Pump Motor Maximum Horsepower	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"
4B2B	20	5'-0"	11"	4 3/4"	6 1/4"	22 5/16"	7 7/8"	15 1/16"	6"	6"	4"x6"
		6'-0"	5"	4 3/4"	1/4"	22 7/16"	7 7/8"	15 1/16"	6"	6"	4"x6"
4B2C	20	5'-0"	11"	4 3/4"	6 1/4"	22 7/16"	7 7/8"	15 1/16"	6"	6"	4"x6"
		6'-0"	5"	4 3/4"	1/4"	22 7/16"	7 7/8"	15 1/16"	6"	6"	4"x6"
4B3B/4C3B	30	5'-0"	11"	4 3/4"	6 1/4"	20 7/16"	7 7/8"	6"	6"	6"	—
		6'-0"	5"	4 3/4"	1/4"	20 7/16"	7 7/8"	6"	6"	6"	—
6B3B/6C3B	30	6'-0"	5"	4"	1"	20 7/16"	7 7/8"	6"	6"	6"	—
		6'-0"	5"	4"	1"	20 7/16"	6 7/8"	17 1/16"	8"	8"	6"x8"



CROSS SECTION



SECTIONAL ELEVATION



PLAN VIEW

NOTES 1. A dehumidifier assembly w/ hermetically sealed freon refrigeration type compressor expansion coil, fan and condensor coil shall be furnished to maintain the relative humidity of air in the pump chamber low enough to keep electrical equipment dry and to prevent condensation on the walls.

2. Station Design Characteristics:
Suction Line 8" — Discharge 6"
2 Pumps at 600 GPM at 85' TDH Singly Operated

3. Backfill Around Station shall be Compacted to 95 % Standard Proctor to Prevent Settlement Prior to Installation of Concrete Pad.

4. These Drawings show a Recessed Wet Well Mounted Sewage Pumping Station Manufactured by Smith and Loveless (S&L). Station by any Other Manufacturer must be Approved be City Engineer Prior to Submitting Bids.

5. Pumping Station shall include an alarm system compatible to city's lift station alarm system for power outage, High water in wet well & high water in pump chamber.

6. A Dual Range Electric Heater w/ an automatic circulating fan thermostat control & an "ON-OFF" switch is to be provided. The Heater shall be capable of keeping the tempuratures in the station above freezing. The Heater is to be operated by connection to the convenience receptacle location on control panel.

DEISS & GOODNESS ENGINEERS
2180 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 838-0538
Designed By MD
Drawn By TG
Job No. SE 579
Date 8-29-80

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

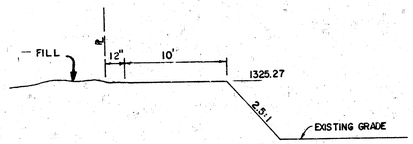
PUMP STATION

RAINBOW LAKES WEST ADDITION

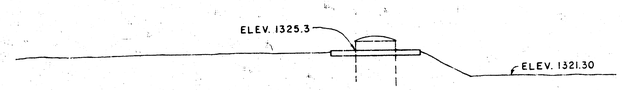
No.	Revision	By
2	11-4-80, 2-19-81	
1	10-10-80	

SHEET NO. 6 OF 8

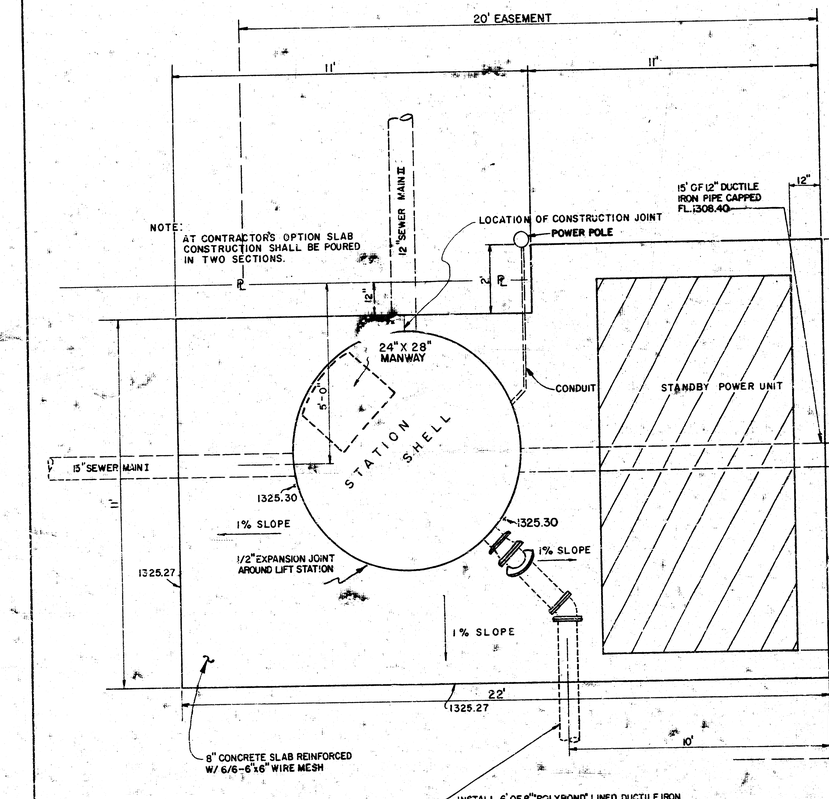
SCALE: 1"=10'



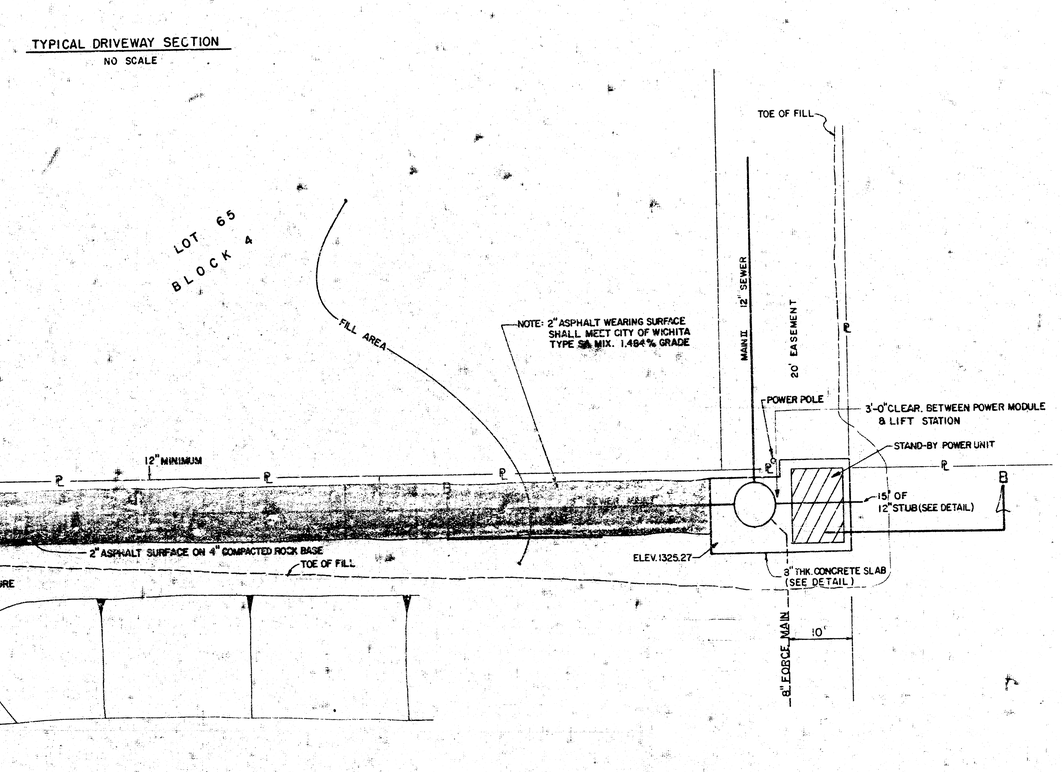
TYPICAL DRIVEWAY SECTION
NO SCALE



SECTION B-B



NO SCALE



REISS & GOODNESS ENGINEERS
2180 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832-0123
Designed By M.D.
Drawn By R.B.
Job No. 2579
Date

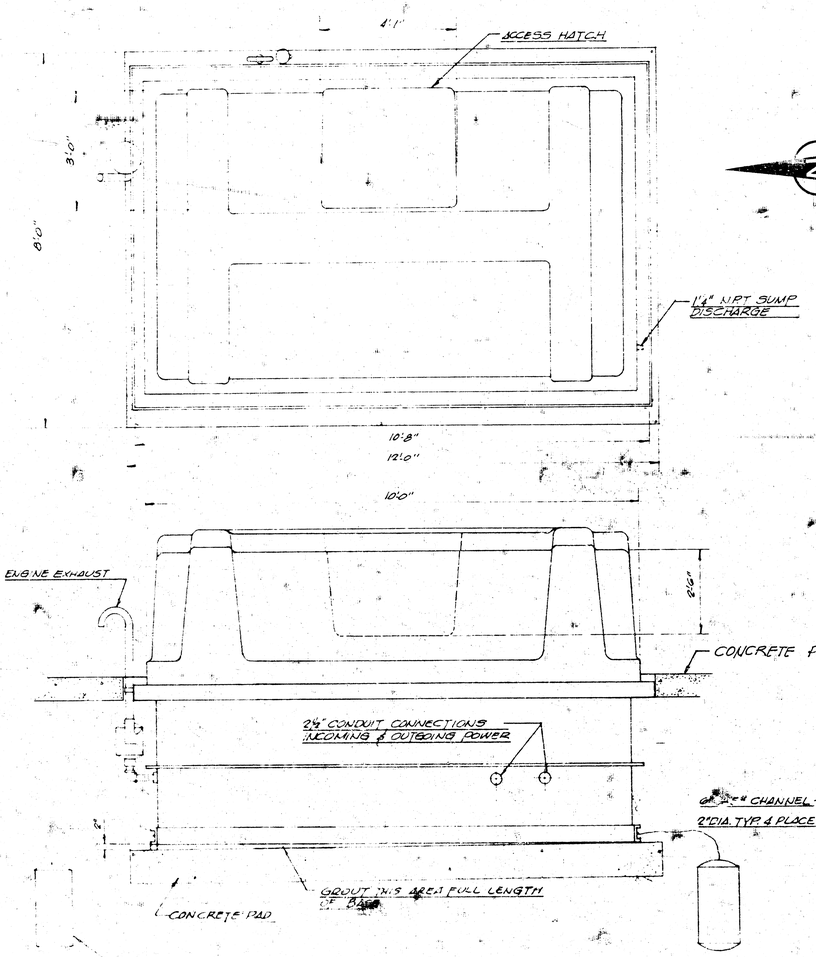
SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

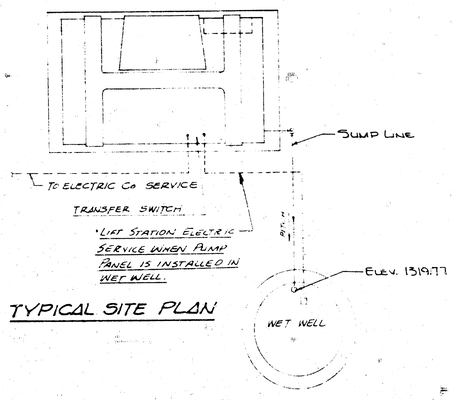
DETAIL SHEET

RAINBOW LAKES WEST ADDITION

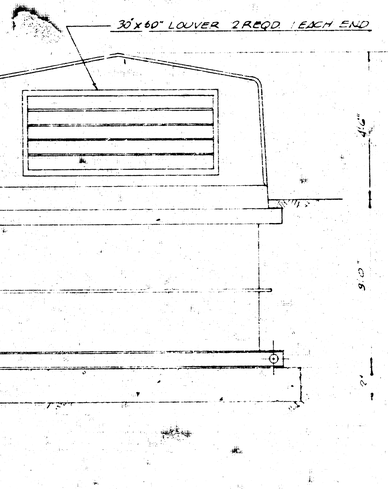
No	Revision 12-80	
1	10-10-80	D.J.
2	2-19-81, 11-4-80	CH

SHEET NO. 7 OF 8





TYPICAL SITE PLAN



No	Revision	By	Date

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

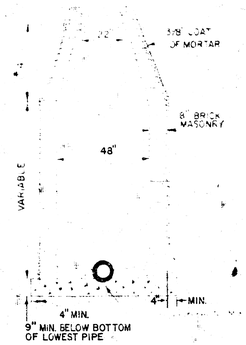
ADDENDUM NO. 1
SANITARY SEWER EXTENSIONS
PUMPING STATION & FORCE MAIN
RAINBOW LAKES WEST THIRD ADDITION

REISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832 0213

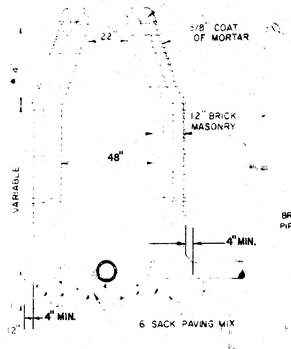
Designed by STANNARD POWER EQUIP CO | Job No
Drawn by | Date 3-2-81

S/9 of 8

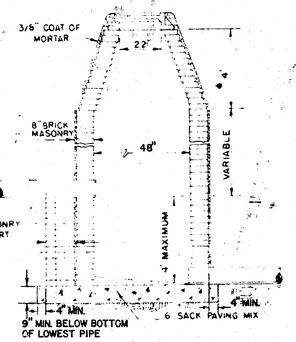
GROUT TO BE PLACED AROUND MANHOLE RING ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS. (TYPICAL ALL MANHOLES)



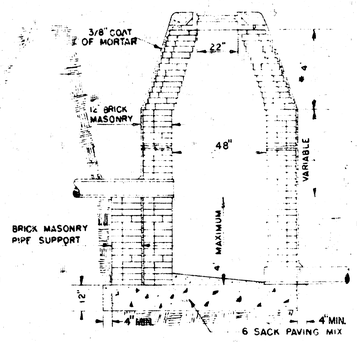
STANDARD MANHOLE TYPE "A"



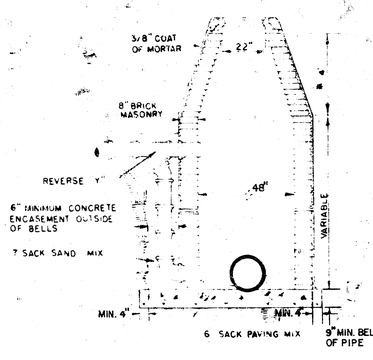
STANDARD MANHOLE TYPE "B"



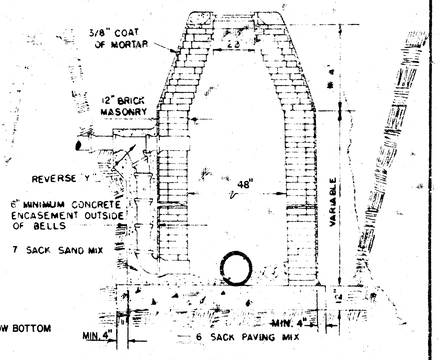
DROP MANHOLE TYPE "A"



DROP MANHOLE TYPE "B"



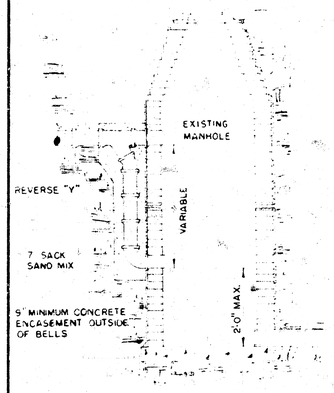
OUTSIDE DROP MANHOLE TYPE "A"



OUTSIDE DROP MANHOLE TYPE "B"

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

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 UNIT PRICE BID FOR MANHOLES CONSTRUCTED.

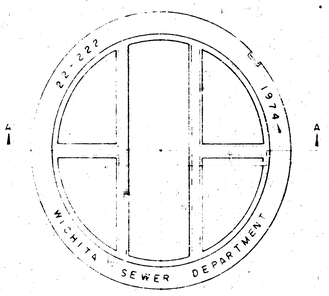


DETAIL OF DROP STACK

FOR EXISTING MANHOLES IN GROUND WATER

GENERAL NOTES

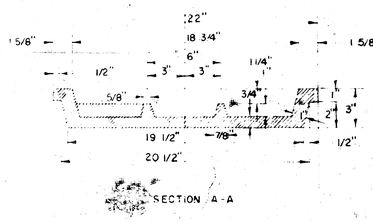
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD.
- STANDARD MANHOLES TYPE A OR TYPE B AND STANDARD DROP MANHOLES TYPE A OR TYPE B SHALL BE BID PER LINEAR FOOT OF MANHOLES CONSTRUCTED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE 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 6 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 UNIT PRICE BID FOR MANHOLES CONSTRUCTED. CRADLE SHALL EXTEND TO FIRST JOINT OUTSIDE OF MANHOLE WHEN CLAY PIPE IS USED.



TOP VIEW

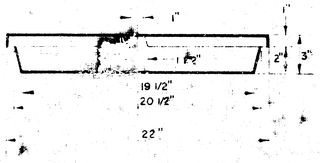
MANHOLE COVER

WEIGHT 110 LBS.



SECTION A-A

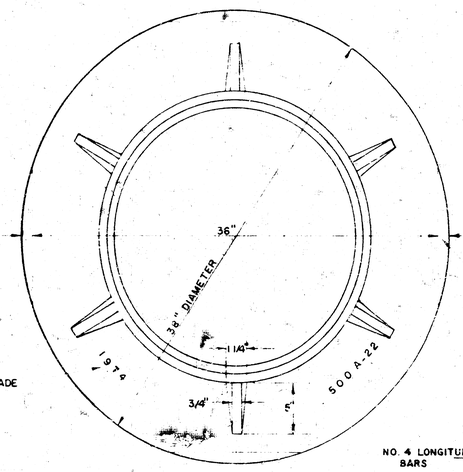
MANHOLE COVER



SIDE VIEW

MANHOLE COVER

YEAR CASTING IS MADE



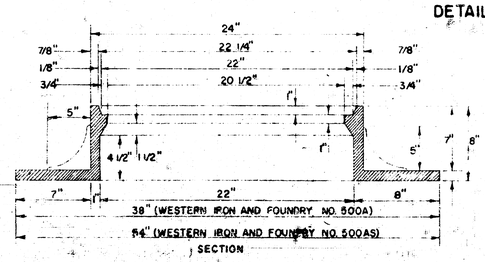
THIS PORTION OF FLANGE MAY BE OMITTED

TOP VIEW

MANHOLE RING

WEIGHT 325 LBS. RING NO. 500A

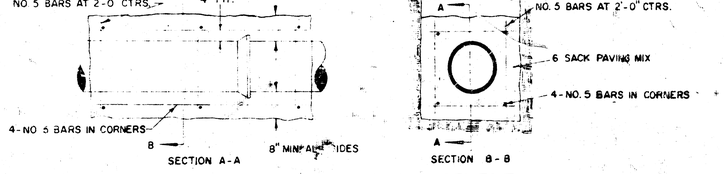
WEIGHT 800 LBS. RING NO. 500AS



SECTION

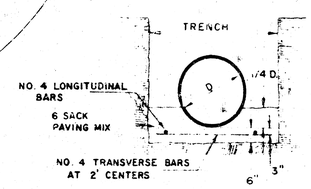
MANHOLE RING

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

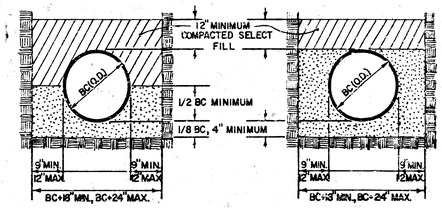


REINFORCED CONCRETE ENCASEMENT

NOTE : CONCRETE ENCASEMENT AND CONCRETE CRADLE SHALL BEGIN AND END AT A JOINT WHEN CLAY PIPE IS USED. 3" MINIMUM CONCRETE COVER OVER REBAR.



DETAIL OF CONCRETE CRADLE



A.B.S. PIPE BEDDING DETAIL

P.V.C. PIPE BEDDING DETAIL

NO.	REVISION	BY	DATE
	2-19-81, 1-8-81, 12-3-80, 11-14-80, 6-26-80 (SG. CO.)	D.J.	

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

BRICK MANHOLE DETAILS
(TYPES A&B)
& MISC. DETAILS

REISS & GOODNESS ENGINEERS
2180 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832-0958

DESIGNED BY CITY OF WICHITA	JOB NO.	SHT. 1 OF 3
DRAWN BY CITY OF WICHITA	DATE 6-26-80	