

BK. 131

Dr. 16

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN. Complete

STADIA
(PROPOSED) Survey

TRUCK ROUTE

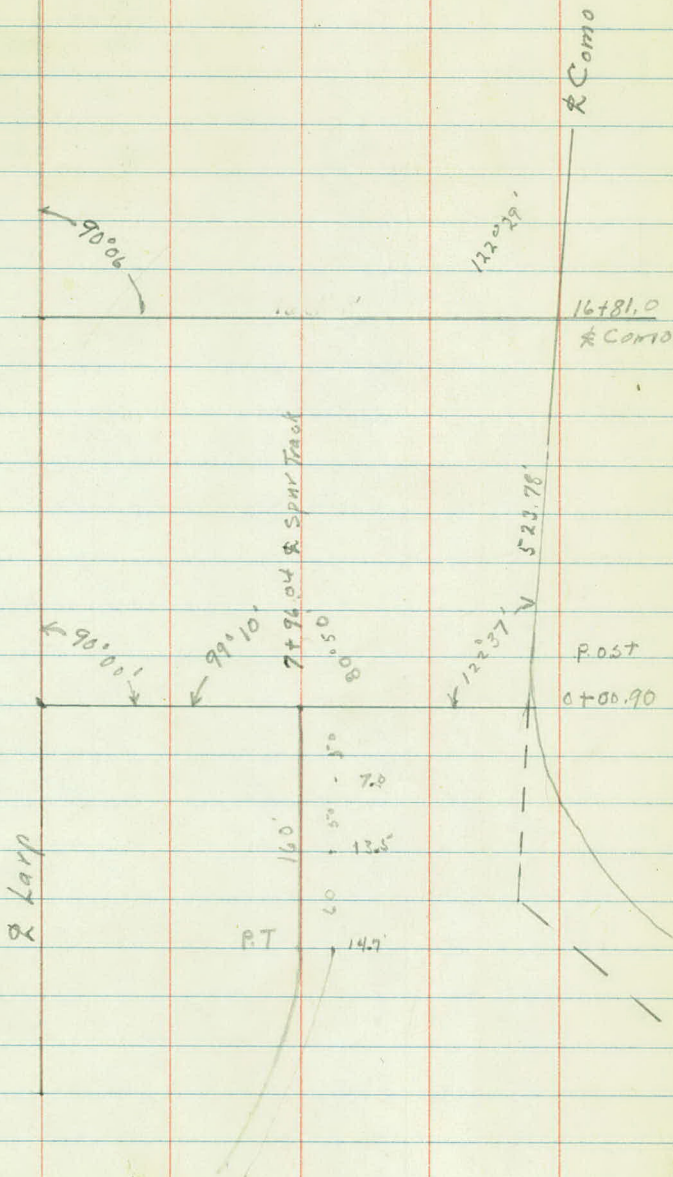
From Como Ave. To S.T.H. #36
between Eustis St. & Belt Line Ry.

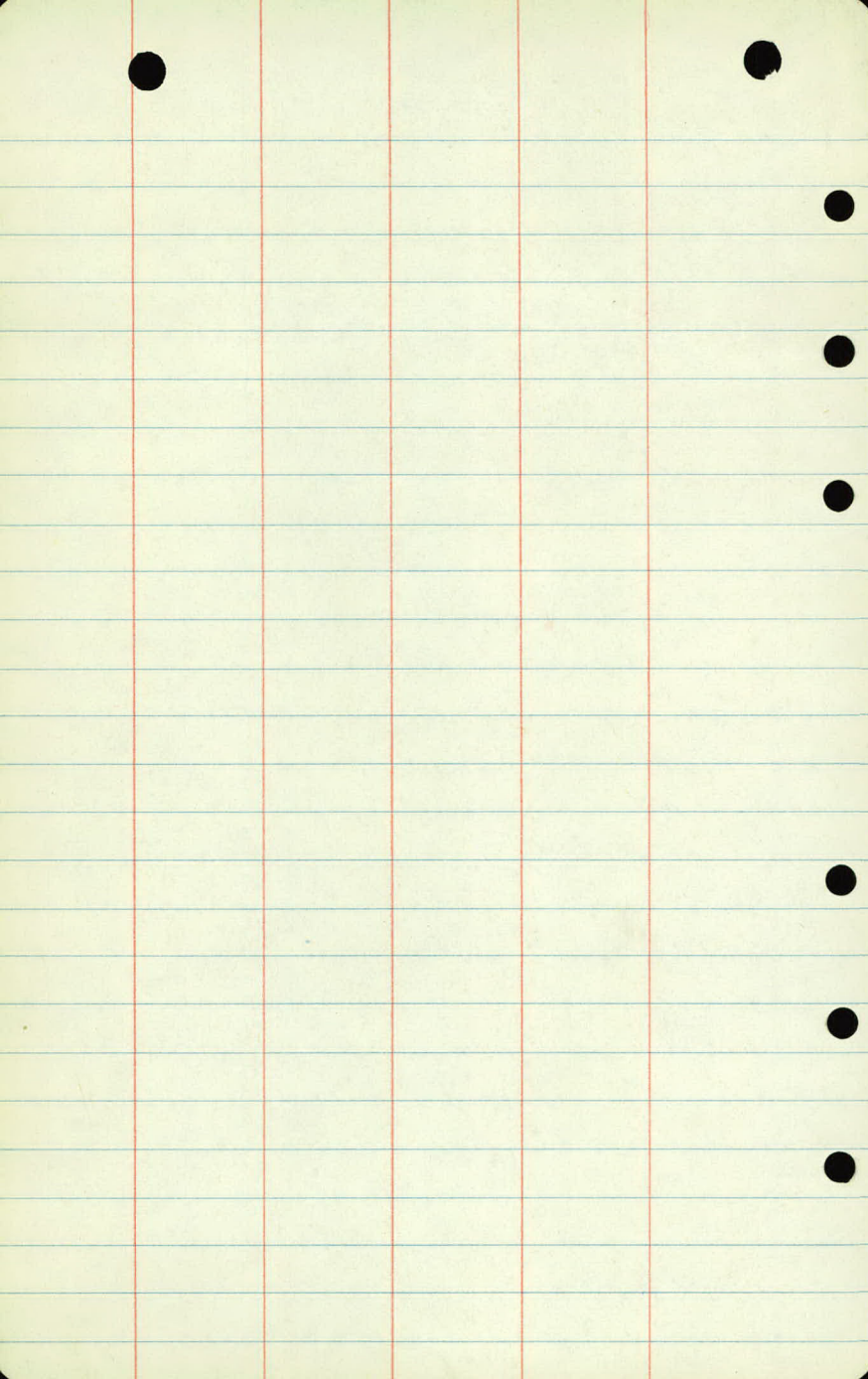
Road Acc't. No.

Date Filed 2-14-46

File.

For x-section, line
Revision, Alignment
See BK. 17 Dr. 15





Align

Base Line
Larp to Como
Eustis to M.T. RY

Mon & Fulham

$$13+21.21 = 0+08$$

8+76.63 P.O.T = Sta 14+00 Base Line

0+00

13°26'

5.

11°33'

8.

10°05'

09

9°30'

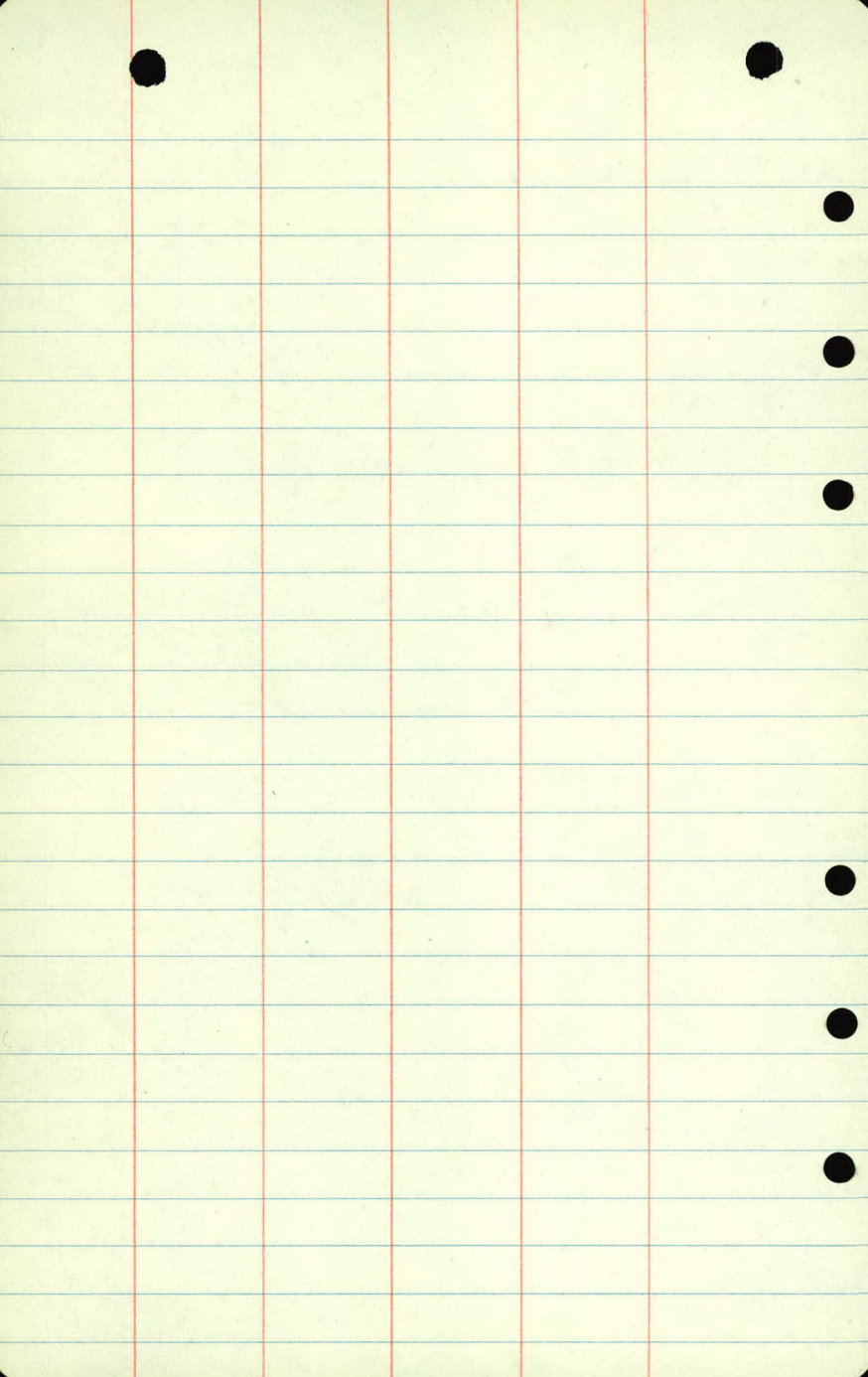
P.

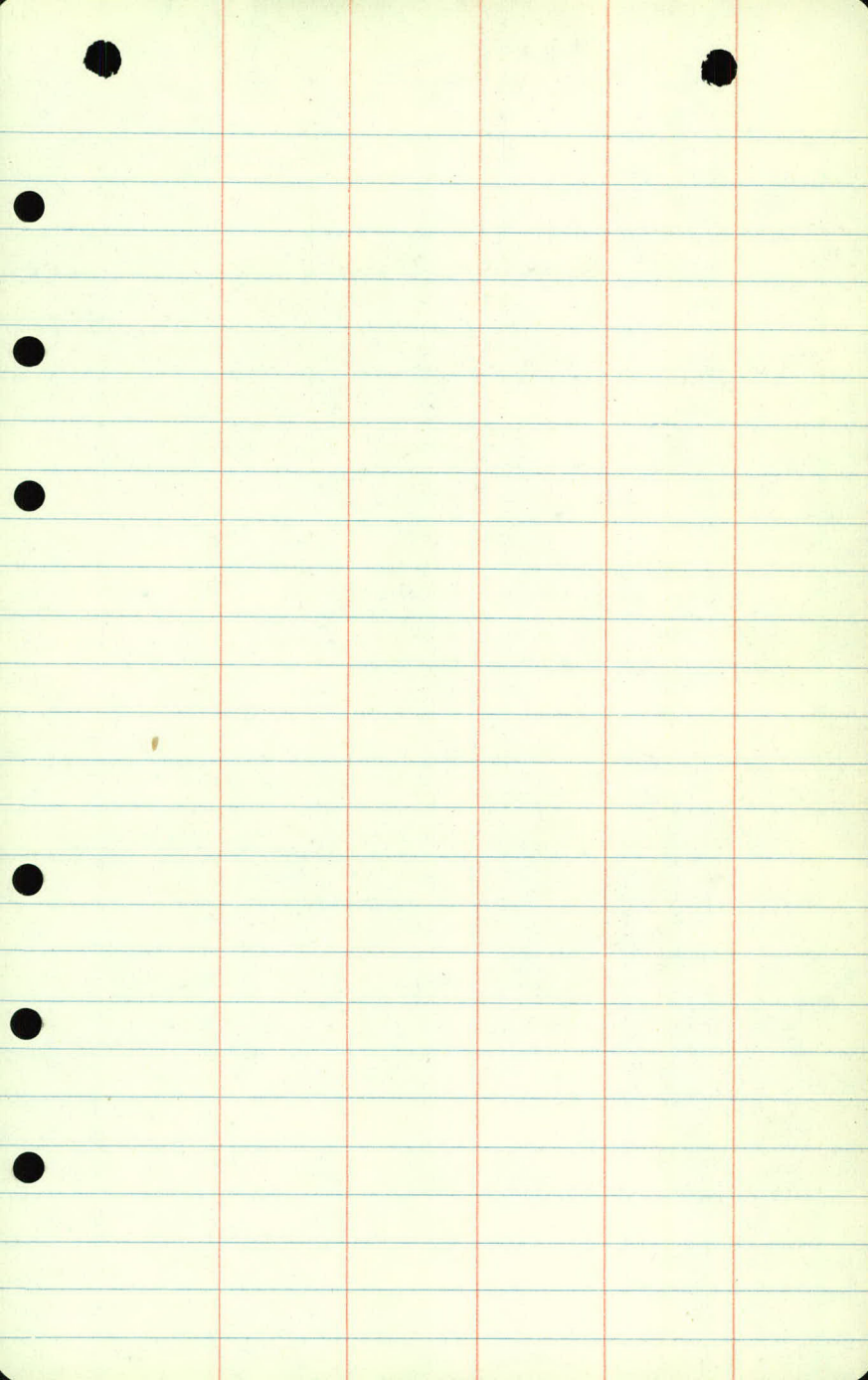
P. O.S.T.

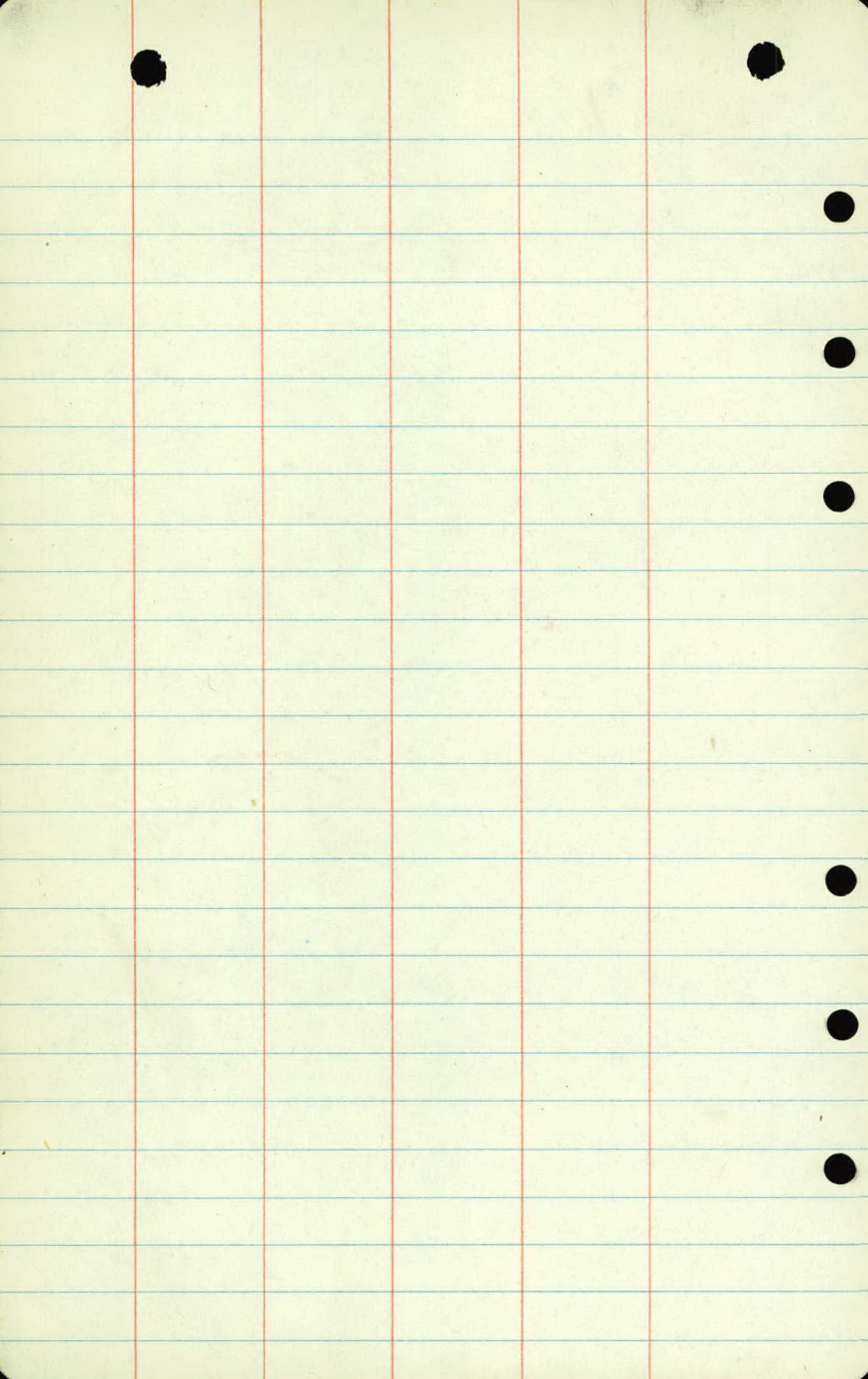
09

0°31'

5m. Tangent







Topography

Area Between

Corn & Larpen tour
Faust's to Belt Line RR

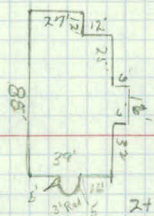
1

Base Line 1. +

+35 Culv 1'

+28 Culv 0

+35 No End Culv 1'



2+79 SW Cor Home
For Blind 249

Baseline

14

13

12

11

10

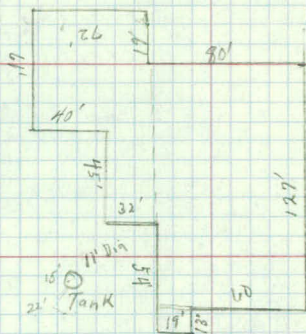
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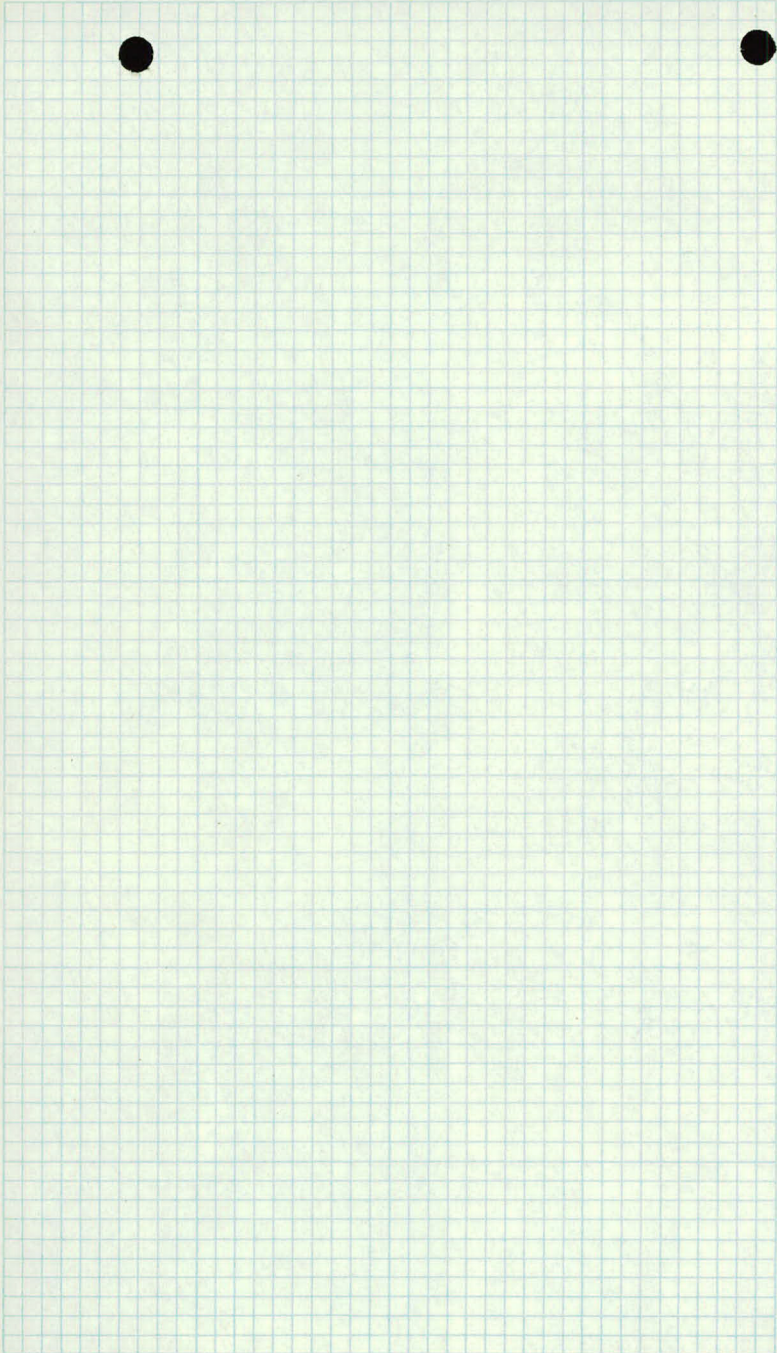
8

7

6

10+32' NW Cor Bldg 207'





H.A.W.

C.F.

A.M.

M.B.

10/20/45

Location of
Ho Walnut St

Baseline 301' East of $\pm$ MTRR

7

6

+100.5 W Ho 58'

5

+103.5 W Cor Ho

4

+153.5 W Cor Ho 51

3

+148.5 W Cor Ho 52

2

+143.5 W Cor Ho 47'

1

0

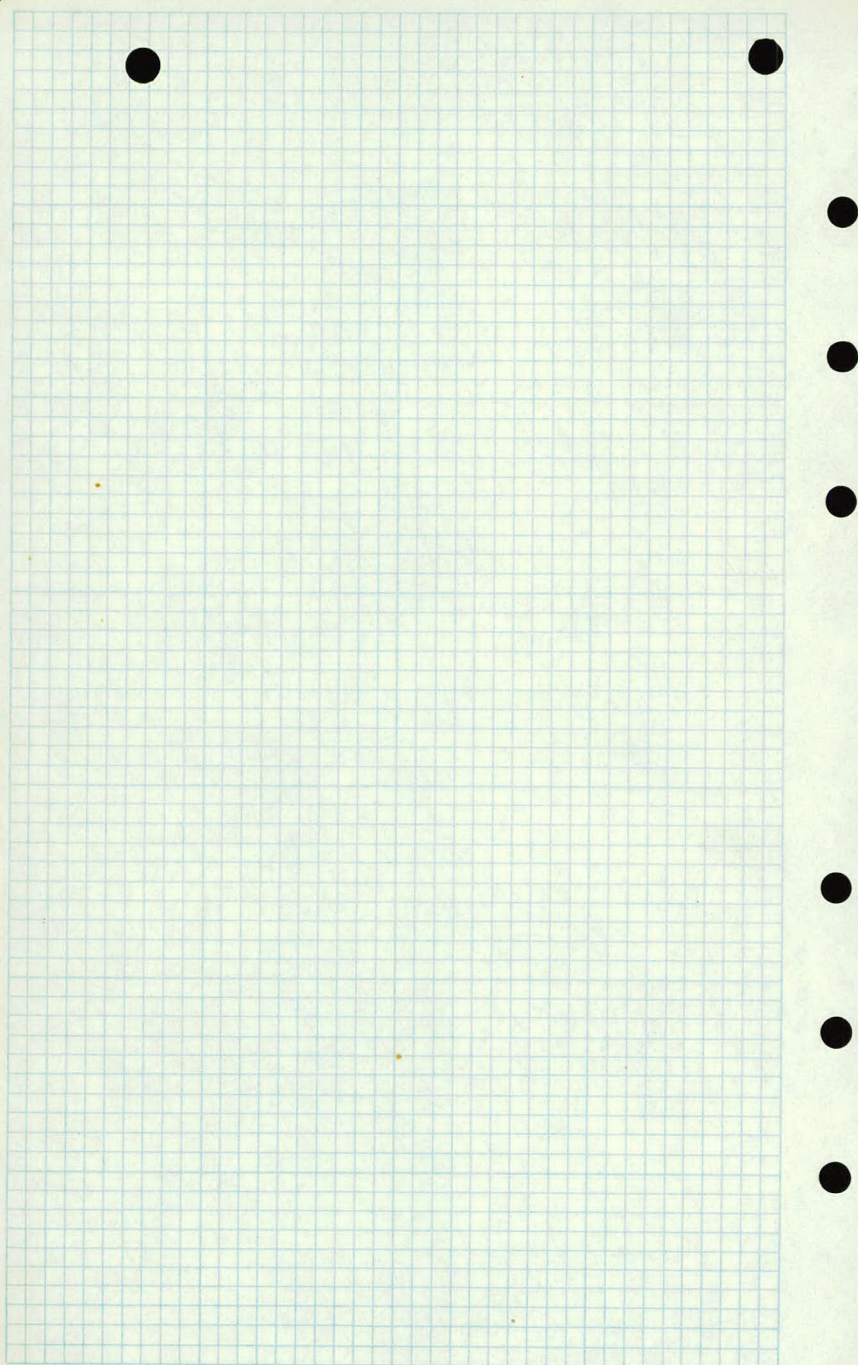
$$\begin{array}{r} 140 \\ 37 \overline{) 24} \end{array}$$

$$\begin{array}{r} 140 \\ 39 \overline{) 22} \end{array}$$

$$\begin{array}{r} 140 \\ 34 \overline{) 2} \end{array}$$

$$\begin{array}{r} 140 \\ 36 \overline{) 27} \end{array}$$

$$\begin{array}{r} 600 \\ 20 \overline{) 20} \end{array}$$



Bench Levels

Elev Hub #1 Baseline

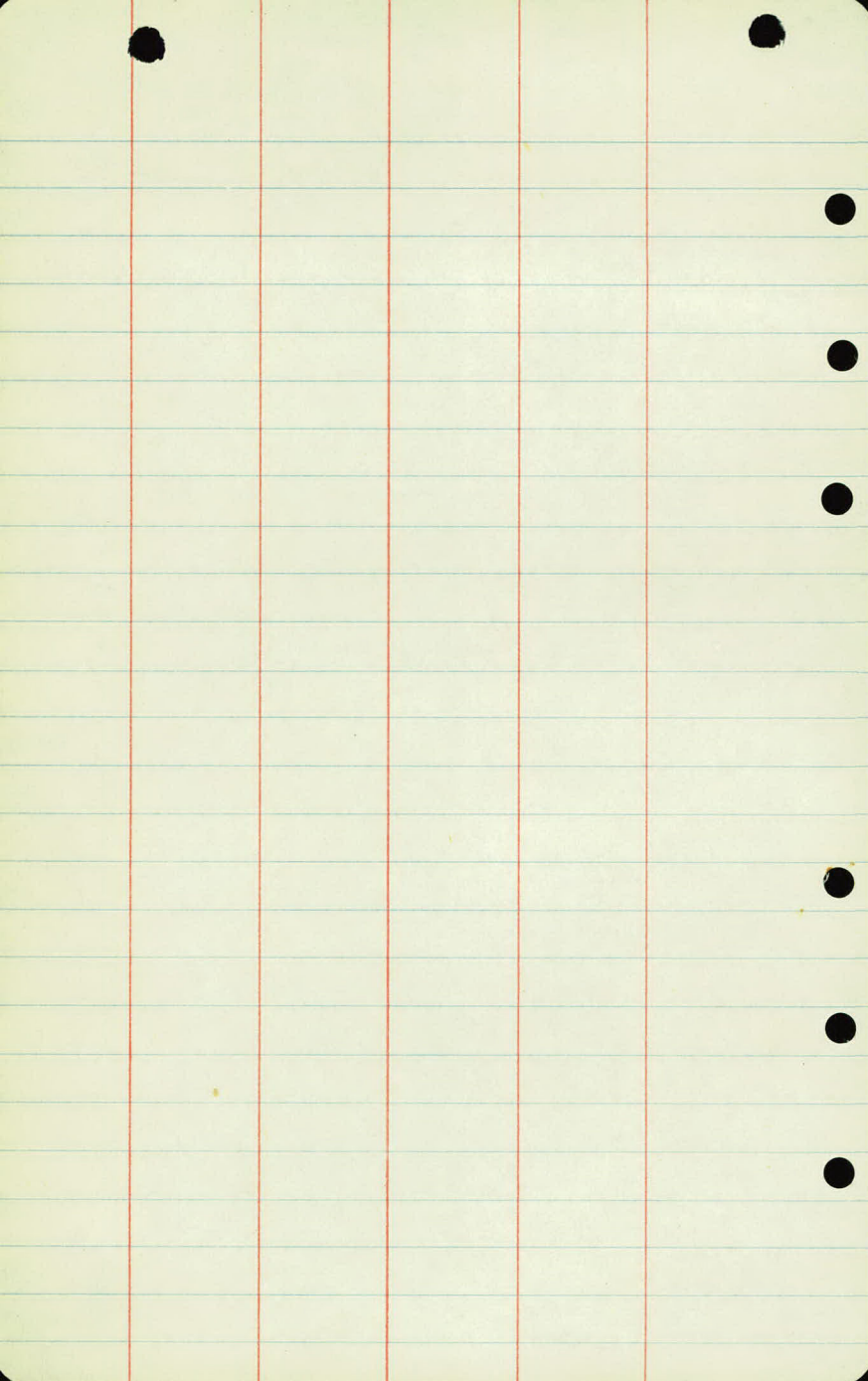
Sta	+	π	-	Elev
B.M	12.55	948.41		935.86
	7.79	955.06	1.14	947.27
			4.50	950.56

1

Description

3pk in P.P Sta 5+47 Larp Ave Survey

Elev Hub #1



Sta	T	A	-	Elev
# 1	3.21	953.77		950.56
# 2	10.46	953.77	10.46	943.31
T.P.			13.38	940.39
	0.40	940.79	11.98	928.81
	0.28	929.09	13.20	915.89
# 3	0.02	915.91	9.55	906.36
	1.64	908.00	11.98	896.02
# 4	2.34	898.36	9.96	888.40
B.M.	13.25	949.51		935.86
# 1	8.74	949.51	8.74	940.77
	11.83	960.93	0.41	949.10
# 2	4.78	960.93	4.78	956.15
	2.38	958.46 ⁵⁶	4.75	956.18
# 3	5.21	958.46 ⁵⁶	5.21	953.25 ³⁵
	5.77	963.60 ⁷⁰	0.63	957.83 ⁹³
# 3A	6.07	963.60 ⁷⁰	6.07	957.53 ⁶³
# 4	7.05	963.60 ⁷⁰	7.05	956.55 ⁶⁵
	8.53	961.41 ⁵¹	10.72	952.88 ⁹⁸
# 5	3.97	961.41 ⁵¹	3.97	957.44 ⁵⁴
	2.42	958.57 ⁶⁷	5.26	956.15 ²⁵
# 6	9.48	958.57 ⁶⁷	9.48	949.09 ¹⁹
# 7	4.88	958.57 ⁶⁷	4.88	953.69 ⁷⁹
	0.97	952.51 ⁶¹	7.03	951.54 ⁶⁴
# 4A	4.10	952.51 ⁶¹	4.10	948.41 ⁵¹
# 4B	6.87	952.51 ⁶¹	6.87	945.64 ⁷⁴

Bench Levels

Base line south
+ Walnut North

Sta	+	A	-	Elev	
		952.51 ⁶¹			
	3.34	949.80 ^{950.00}	5.95	946.51 ⁶⁶	
# 8	2.60	949.80 ^{950.00}	2.60	947.40 ⁴⁰	
# 9	3.47	949.80 ^{950.00}	3.47	946.33 ⁵³	946.53
	1.11	945.24 ⁴⁴	5.67	944.13 ³³	944.33
# 11	1.20	934.32 ⁵²	12.12	933.12 ³²	933.32
# 12	7.90	934.32 ⁵²	7.90	926.42 ⁶²	926.62
	12.37	946.28 ⁴⁸	0.41	933.91 ¹¹	934.11
	10.79	956.49 ⁶⁹	0.58	945.90 ⁹⁰	945.90
# 10		934.52	4.55	951.94 ⁹⁴	952.14
		934.32			
	7.14	937.68 ⁸⁸	3.78	930.54 ⁷⁴	930.74
# 13	5.24	937.68 ⁸⁸	5.24	932.44 ⁶⁴	932.64
# 1	12.86	950.26 ⁴⁶	0.28	937.40 ⁶⁰	937.60
# 14			8.47	941.79 ⁹⁹	941.99
# 15			2.00	948.21 ⁴⁶	948.46

Elev Hub #1

" " #2

Hub #4

Spring P.P. 114' West of Walnut

Elev D #1

Elev D #2

Elev D #3

Elev D #3A

Elev D #4

Elev #5

Elev D #6

" D #7

Elev D #4A

Elev D #4B

4/

Elev □ #8

Elev □ #9

Elev A #11

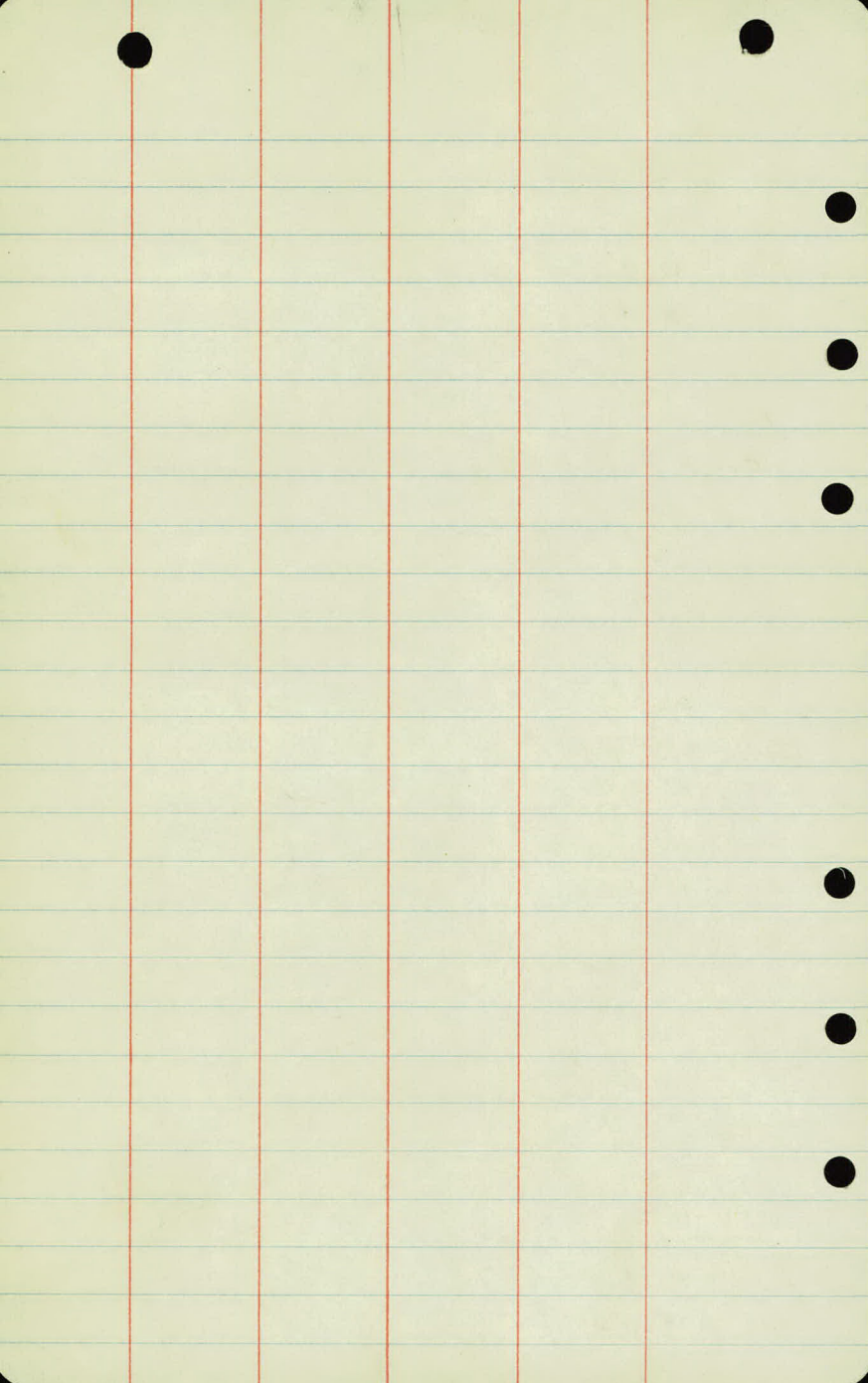
Elev A #12

Elev A #10

Elev A #13

#14

#15



Page 7 Transit KFE Obs. W. L. Ke Line
 Date 11/1/45 Rec. W. L. Ke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
North = 0°00									
at Hub # 1 on Base Line									950.56
Sta 12+29.45	0°00'	1.71							
H. I. 5.20 (+950.56)									
									H.I. = 955.76 ✓
Gen Larp Pave	26°15'	1.90					74		48.4.
NW Cor Bldg & Gen Elev	39°19'	1.33					36		52.2.
2 Pave	1°40'	1.73					86		47.2.
Toe Slope	101°00'	0.92					30		52.8.
Top Bank	104°25'	0.94					5.0	+5.1	60.9.
GEN - ELEV	359°50'	0.70					6.1		49.7.
Top BANK	303°20'	0.12					5.3		50.5.
" "	213°00'	0.17					5.8		50.0.
" "	133°20'	0.49					3.5		52.3.
STUMP Top BANK	126°20'	0.54					3.5	+2.1	57.9.
Top BANK	131°30'	0.56					5.0	—	55.8.
" "	127°50'	0.78					5.0	-0.8	55.0.
" "	120°23'	1.06					5.0	-2.5	53.3.

Page 3 Transit WILKE Obs. Line
 Date 4/21/45 Rec. R.M.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	#1.	955.76							
Top BANK	140° 30'	1.23					3.7		52.1.
TOE SLOPE	142° 15'	1.18					10.4		45.4.
" "	129° 00'	1.04		+	1° 15'	+2.3	11.0	-8.7	47.1.
" "	139° 00'	0.82					8.6		47.2.
" "	144° 00'	0.50					7.0		48.8.
" "	170° 40'	0.30					7.3		48.5.
" "	200° 00'	0.30					10.3		45.5.
GEN ELEV	179° 20'	0.37					8.0		47.8.
" "	160° 47'	0.56					7.3		48.5.
" "	147° 00'	0.90					8.0		47.8.
" "	151° 50'	0.95					10.9		44.9.
" "	160° 40'	0.72					10.9		44.9.
" "	190° 45'	0.38					10.7		45.1.
" "	227° 50'	0.28					10.1		45.7.
" "	273° 50'	0.27					10.4		45.4.
" "	267° 43'	0.50					11.9		43.9.

Page. 4 Transit. Obs. WILKE Line.
 Date. 11-21-45 Rec. H.L.M.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
		<u>H.L.</u>	<u>955.76</u>					
TOE BANK	270° 50'	0.68		-	5° 42'	-6.7	10.0	-16.7 39.1
" "	277° 30'	0.56		-	6° 29'	-6.3	10.0	-16.3 39.5
" "	285° 30'	0.75		-	7° 40'	-10.0	10.0	-20.0 35.8
" "	316° 18'	0.47		-	5° 30'	-4.5	10.0	-14.5 41.3
" "	327° 30'	0.62		-	4° 05'	-4.4	10.0	-14.4 41.4
" "	293° 45'	0.83		-	5° 44'	-8.3	10.0	-18.3 37.5
Top "	340° 15'	0.77				6.0		49.8
GEN. ELEV.	348° 15'	1.20				7.9		47.9
" "	348° 54'	1.43				10.5		45.3
↳ LAAP AVE	351° 00'	1.74				9.6		46.2
" " "	339° 27'	1.83				10.7		45.1
Top SHLDR.	335°	1.63				12.3		43.5
P.P.	335°	1.53				—		
TOE SLOPE	329° 05'	1.50		-	2° 50'	-6.9	10.0	-16.9 38.9
G.E	325° 12'	1.30		-	2° 11'	-4.9	10.0	-15.1 40.7
" " 24" OAK	332° 44'	1.18				12.1		43.7
G.E	316° 45'	1.03		-	2° 29'	-4.5	10.1	-14.6 41.2

Page. 5 Transit. Obs. WILKE Line.
Date. 11-21-45 Rec. FL-M

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
	<u>H.I. 955.76</u>							
Top RIDGE	298° 40'	0.86		-	3° 39'	10.0	-15.5	40.3
Top RIDGE 5-6" OAKS	309° 45'	0.79				—		
Top RIDGE	321° 54'	0.75				10.5		45.3
G. E.	286° 15'	0.93		-	5° 56'	10.0	-19.6	36.2
"	275° 25'	0.90		-	5° 25'	10.0	-18.5	37.3
"	259° 04'	0.88		-	4° 36'	10.0	-17.1	38.7
" 6" Pop.	243° 45'	0.94		-	4° 24'	10.0	-17.2	38.6
G. E.	229° —	1.08		-	3° 21'	10.0	-16.3	39.5
Top RIDGE & 24" OAK	224° 54'	1.14				10.4		45.4
Toe RIDGE	236° 00'	1.46		-	3° 10'	10.0	-18.1	37.7
Top "	238° 06'	1.53		-	2° 31'	10.0	-16.7	39.1
G. E. 18" OAK	248° 00'	1.45		-	3° 29'	10.0	-18.8	37.0
Top RIDGE	247° 00'	1.30		-	2° 45'	10.0	-16.2	39.6
Toe "	251° 45'	1.24		-	4° 16'	10.0	-19.2	36.6
" "	257° 30'	1.18		-	4° 31'	10.0	-19.3	36.5
G. E.	261° 00'	1.17		-	4° 04'	10.0	-18.3	37.5
"	267° 08'	1.15		-	5° 55'	10.0	-21.8	34.0

Page 6 Transit Obs. WILKE Line
 Date 11-21-45 Rec. ALM

OBJECT	AZIMUTH	STADIA π 955.76	Dis- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
G.E	302° 12'	1.31		-	4° 25' - 10.1	10.0	-20.1	35.7
"	304° 32'	1.37		-	2° 35' - 6.2	10.0	-16.2	39.6
"	307° 16'	1.42		-	5° 28' - 13.6	5.0	-18.6	37.2
TOE SLOPE	319° 40'	1.71		-	2° 49' - 8.4	10.0	-18.4	37.4
SHLDR LARP AVE	323° 30'	1.87				13.2		42.6
LARP AVE	327° 09'	2.03				12.1		43.7
" " "	303° 10'	3.20		-	1° 06' - 6.1	10.0	-16.1	39.7
SHLDR " "	299° -	3.13		-	1° 16' - 6.9	10.0	-16.9	38.9
TOE SLOPE	293° 50'	3.03		-	2° 59' - 15.8	10.0	-25.8	30.0
G. E	291° 15'	3.00		-	3° 15' - 17.0	10.0	-27.0	28.8
"	278° 10'	2.90		-	2° 45' - 13.9	10.0	-23.9	31.9
EAST EDGE SCATTERED TREES G.E	275° 15'	2.82		-	2° 40' - 13.1	10.0	-23.1	32.7
" " " " "	264° 48'	2.78		-	4° 17' - 20.8	10.0	-30.8	25.0
" " " " "	250° 26'	2.83		-	4° 39' - 23.0	10.0	-33.0	22.8
" " " " "	247° 22'	3.46		-	4° 25' - 26.6	10.0	-36.6	19.2
G.E	255° 40'	3.35		-	4° 28' - 26.2	10.0	-36.2	19.6
	256° 20'	3.35		-	4° 48' - 28.0	10.0	-38.0	17.8

Page 7 Transit WILKE Obs. Line
 Date 11-21-45 Rec. FLM

OBJECT	AZIMUTH	STADIA π 955.76	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G.E	266° 42'	3.43		-	4° 35'	-27.4	10.0	-37.4	18.4
"	278° -	3.23		-	3° 52'	-21.8	10.0	-31.8	24.0
TOE SLOPE	289° 40'	3.25		-	3° 28'	-19.6	10.0	-29.6	26.2
"	293° 22'	3.35		-	3° 15'	-19.0	5.0	-24.0	31.8
SHLDR LARP AVE	296° 22'	3.40		-	2° 07'	-12.6	5.0	-17.6	38.2
"	294° 30'	4.18		-	1° 45'	-12.8	5.0	-17.8	38.0
SHLDR	290° 06'	4.35		-	1° 44'	-13.1	5.0	-18.1	37.7
G.E	278° 56'	4.28		-	2° 10'	-16.2	10.0	-26.2	29.6
"	267° 40'	4.20		-	3° 17'	-24.0	10.0	-34.0	21.8
"	264° 10'	4.18		-	4° 41'	-34.2	5.0	-39.2	16.6
"	251° -	4.28		-	5° 05'	-38.0	5.0	-43.0	12.8
"	249° 23'	4.34		-	4° 16'	-32.3	5.0	-37.3	18.5
"	247° 20'	4.36		-	4° 41'	-35.6	5.0	-40.6	15.2
SHLDR LARP. AVE	288° 20'	4.88		-	1° 35'	-13.5	5.0	-18.5	37.3
Top R.R. CUT	278° 46'	4.80		-	1° 48'	-15.1	10.0	-25.1	30.7
"	271° 28'	4.70		-	2° 27'	-20.1	10.0	-30.1	25.7
"	257° 47'	4.78		-	3° 29'	-29.0	10.0	-39.0	16.8

Page 8 Transit WILKE Obs. ALM Line
 Date 10-21-45 Rec. ALM

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G.E	249° 52'	4.80	π 955.76	-	4° 24'	-36.8	5.0	-41.8	14.0
CL BELT LINE TRACKS	249° 55'	5.24		-	4° 27'	-40.6	5.0	-45.6	10.2
G.E	246° 20'	4.80		-	4° 35'	-38.4	5.0	-43.9	11.9
TOP RIDGE	242° 30'	4.70		-	4° 04'	-33.4	5.0	-38.4	17.4
" "	226° -	4.58		-	3° -	-24.0	10.0	-34.0	21.8
G.E.	227° 54'	4.56		-	4° 03'	-32.2	10.0	-42.2	13.6
"	228° -	4.24		-	4° 37'	-34.2	10.0	-44.2	11.6
"	227° 50'	4.00		-	4° 34'	-30.7	10.0	-40.7	15.1
"	227° 15'	3.32		-	4° 21'	-25.2	5.0	-30.2	25.6
"	227° 40'	1.76		-?	2° 06'	-? 6.4	10.0	-16.4	39.4
"	90° -	1.40					2.5		53.3
"	90° -	1.50					1.1		54.7
TOP RIDGE	90°	2.35		+	0° 40'	+ 2.7	5.0	-2.3	53.5
TO HUB #2	180° -	1.67					12.33		

943.43

943.31
By Levels

Page 9 Transit WILKE Obs. ALMS Line 1042
 Date 11-21-45 Rec. ALMS

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
AT HUB #2								943.31
H.I. 5.0 + 943.31 =								948.31
TO HUB #1	0° 00'	1.67		+ 2° 29'	+ 7.2	5.0	+ 2.2	950.56
Top BANK G.E	71° 46'	2.33		+ 1° 32'	+ 6.3	5.0	+ 1.3	49.7
" " "	68° 15'	1.09				2.8		45.6
" " "	101° 10'	0.79				8.3		40.1
" " "	189° 30'	0.19				7.9		40.5
" " "	267° 20'	0.73				7.5		40.9
" " "	271° 50'	1.35				12.9		35.5
G.E	259° 20'	1.82		- 4° 18'	- 13.7	10.0	- 23.7	24.7
Top RIDGE	250° -	2.40		- 3° 35'	- 15.0	10.0	- 25.0	23.4
G.E	230° 30'	3.18		- 7° 28'	- 41.3	5.0	- 46.3	02.1
TOE R.R SPUR TRACK	225° 07'	3.00		- 7° 05'	- 37.1	5.0	- 42.1	06.3
G.E	225° 07'	2.72		- 6° 25'	- 30.4	10.0	- 40.4	08.0
"	225° 31'	2.60		- 7° 33'	- 34.2	10.0	- 44.2	04.2
"	226° 04'	2.04		- 8° 15'	- 29.3	10.0	- 39.3	09.1

Page 10 Transit WILKE Obs. Line
 Date 11-21-45 Rec. ALMS

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G.E	225° 09'	1.54	7948.40	-	10° 21'	-27.6	10.0	-37.6	10.8
"	228° 06'	1.14		-	9° 50'	-19.5	10.0	-29.5	18.9
"	185° 20'	1.00		-	11° 50'	-20.5	10.0	-32.5	15.9
"	143° 55'	0.82		-	11° 24'	-16.2	5.0	-21.2	27.2
"	116° 40'	1.06		-	7° 55'	-14.6	5.0	-19.6	28.8
"	86° 57'	1.20		-	2° 35'	-5.4	13.0	-18.4	30.0
"	80° 50'	2.33		-	2° 31'	-10.3	5.0	-15.3	33.1
"	75° -	2.73		-	0° 39'	-3.1	10.0	-13.1	35.3
N.W COR TELEEX BLDG	99° 41'	2.10		-	1° 29'	-5.4	10.0	-15.4	33.0
TOP RIDGE	134° 35'	2.67		-	3° -	-14.0	10.0	-24.0	24.4
" "	146° 23'	2.45		-	4° 38'	-19.8	10.0	-29.8	18.6
" "	140° 20'	2.12		-	3° 50'	-14.2	10.0	-24.2	24.2
G.E	72° 45'	2.80		+	0° 11'	+0.9	13.0	-12.1	36.3
"	66° 55'	3.66		+	0° 47'	+5.0	12.0	-7.0	41.4
5420 R ENSTIS ST.	70° 0'	4.28		+	0° 46'	+5.7	5.0	+0.7	49.1
" "	70° 35'	4.75		+	0° 40'	+5.5	5.0	+0.5	48.9
" "	87° 00'	4.45		-	0° 30'	-3.9	5.0	-8.9	39.5

Page. 11 Transit Obs. WILKE Line
 Date. 11-23-45 Rec. FL. M. S.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
SHLDR EUSTIS ST	87° 06'	4.22		-	4° 40'	-34.2'	5.0	-39.2	09.2
G.E	85° 28'	2.70		-	0° 46'	-3.6'	10.0	-13.6	34.8
COR BLDG	115° 05'	2.29		-	3° 18'	-13.3'	5.0	-18.3	30.1
" "	119° 56'	2.85		-	2° 27'	12.2'	5.0	-17.2	31.2
" "	125° 08'	3.40		-	1° 21'	-8.0'	10.0	-18.0	30.4
Top BANK	126° 10'	4.60		-	1° 20'	10.7'	12.0	-22.7	25.7
" "	131° 40'	4.12		-	3° 04'	22.0'	5.0	-27.0	21.4
G.E	137° 24'	3.90		-	4° 19'	29.4'	10.0	-39.4	09.0
AT HUB #2									
TO HUB #3	50. 180° 0'	2.69		-	7° 55'	37.05'	5.0	42.05	906.36
AT HUB #3									906.36
H.I. 5.25									
TO HUB #2	0° 0'	2.69		+			5.0		943.31
Q DRAW	37° 50'	1.47		+	2° 29'	+6.4'	5.0	+1.4	13.0
" "	61° 05'	1.02					6.4		05.2
G.E	48° 25'	0.85					3.1		08.5
"	353° 25'	0.77					0.0		11.6

Page 12 Transit.....Obs. WILKE Line.....
 Date 11-22-45 Rec. H.L.M.S.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
			<u>H.I. 911.61</u>					
G. E	347° 30'	0.81		+	7° 04'	+10.0	5.0	+5.0 16.6
"	327° 50'	1.09		+	5° 55'	+11.3	5.0	+6.3 17.9
"	314° 35'	1.31		+	3° 05'	+7.0	10.0	-3.0 08.6
"	311° 35'	1.40					6.7	04.9
"	301° 35'	2.22		+	1° 06'	+4.3	2.1	+2.2 13.8
"	294° 35'	2.82					5.0	06.6
36" TREE	295° 40'	3.06		+	1° 05'	+5.8	5.0	+0.8 12.4
TOP RIDGE	290° 15'	3.50		+	0° 54'	+5.5	5.0	+0.5 12.1
TOE RR+ " F.LINE SLOPE	286° 40'	3.00					7.3	04.3
" RR "	284° 50'	2.85					8.8	02.8
24" TREE	288° 40'	1.50						
F.LINE + TOE SLOPE	286° 50'	1.50					9.4	02.2
TREE	298° 20'	0.86						
TOE RR SLOPE FENCE	294° 35'	0.68					6.6	05.0
" " " "	45° 50'	0.25					8.8	02.8
TREE	80° 0'	0.90						
No. END R.R. C&N 30° C.M	86° 08'	0.79					12.2	899.4

Page 13 Transit WILKE Obs. WILKE Line WILKE
 Date 11-23-45 Rec. RLMS

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	<u>H1. 911.61</u>								
TOE R.R. + RIDGE SLOPE	92° 10'	1.50					8.9		02.7
" " " "	94° 52'	2.32					6.2		05.4
TOE BANK	95° 25'	3.28					3.4		08.2
" "	95° 35'	4.16					1.7		09.9
¢ EUSTIS	95° 35'	4.44					1.2		10.4
TOP BANK	91° 0'	3.85		+	3° 28'	+23.3	10.0	+13.3	24.9
" EUSTIS SLOPE	82° 53'	4.08		+	3° 16'	+23.3	5.0	+18.3	29.9
¢ CAMPUS R.R. TRACK	97° 55'	4.46					1.5		10.1
NO R.R. SHLDR CAMPUS SPUR	97° 0'	3.20					4.2		07.4
" " " "	96° 40'	1.87					4.1		06.9
" " " "	24° 30'	0.13					5.2		06.4
" " " "	282° 40'	1.90					5.4		06.2
" " " "	287° 20'	3.50					3.3		08.3
" " " " TOE BANK	290° 20'	3.96		+	0° 59'	+6.8	10.0	-3.2	08.4
So " " CAMPUS	287° 20'	4.00					3.0		08.6
" " " "	279° 26'	3.03					4.4		07.2
" " " "	273° 35'	2.00					5.6		06.0

Page ¹⁴ Transit Obs. WILKE Line
 Date 11-23-45 Rec. ALMS

OBJECT	AZIMUTH	STADIA	Dis- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
So. R.R. SHLDR CAMPUS SPUR	267° 50'	1.00	41.911.61			5.1		06.5
" " " " "	140° 0'	0.14				5.6		06.0
" " " " "	102° 0'	2.20				5.0		06.6
" " " " "	99° 30'	3.82				3.0		08.6
R.R. DITCH	100° 15'	3.75				4.0		07.6
F.C. COR + G.E.	101° 21'	3.81				3.5		08.1
FENCE LINE + G.E.	102° 30'	2.97				5.4		06.2
R.R. DITCH	101° 30'	2.97				6.3		05.3
TOE So. R.R. SLOPE FENCE	104° 55'	2.20				10.1		01.5
" " " " "	114° 40'	1.00		-	2° 37'	-4.6	10.0	-14.6 97.0
" " " " "	180° 0'	0.30		-	9° 47'	-5.1	10.0	-15.1 96.5
" " " " "	250° 20'	0.98		-	4° 03'	-7.0	10.0	-17.0 94.6
So END 30' C.M. R.R. CULV	105° 51'	0.80				15.5		96.1
To So. R.R. SLOPE	265° 37'	2.06		-	1° 59'	-7.2	10.0	-17.2 94.4
" " " " "	274° 06'	2.93		-	0° 26'	-2.2	10.0	-12.2 99.4
" " " " "	281° 40'	3.86				6.3		05.3
" " " " "	287° 35'	4.48				5.6		06.0

Page. 15 Transit. Obs. WILKE Line. ALMS
 Date. 11-23-45 Rec. ALMS

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
E SHLDR M.T.R.R.	286° 20'	4.80					2.6		09.0
E TOE M.T.R.R.	286° 20'	4.70					6.1		05.5
⊥ " " " TRACK	283° 55'	5.00		+ 0° 16'	+2.3	5.0	-2.7		08.9
" " " "	271° -20'	4.75					3.8		07.8
SHLDR " " " "	271° 20'	4.50					4.3		07.3
" " " "	261° 16'	4.42					5.9		05.7
⊥ " " " "	260° 30'	4.77					5.0		06.6
" " " "	240° 02'	5.22					6.8		04.8
SHLDR " + N.W. COR BLDG	237° 45'	4.73					6.4		05.2
TOE M.T.R.R. SLOPE	236° 24'	4.47		- 1° -24'	-10.9	10.0	-20.9		90.7
TOE BANK	244° 15'	4.16		- 1° -30'	-10.9	10.0	-20.9		90.7
G.E. EMBANKMENT SLOPE	251° 07'	4.10		- 0° -50'	-5.9	10.0	-15.9		95.7
" " "	254° 09'	4.22		- 0° -59'	-7.2	5.0	-12.2		99.4
TOE M.T.R.R. SLOPE	259° 40'	4.27		- 0° 46'	-5.7	10.0	-15.7		95.9
" " " "	262° 25'	4.20		- 1° 18'	-9.5	10.0	-19.5		92.1
" " " "	271° 40'	4.30		- 1° 13'	-9.2	5.0	-14.2		97.4
G.E.	177° 47'	3.64					7.2		04.4

Page 16 Transit WILKE Obs. Line
 Date 11-23-45 Rec. ALM

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G. E	252° 06'	3.61		-	1° 15'	-7.9	10.0	-17.9	93.7
"	260° 12'	3.65		-	1° 46'	-11.3	10.0	-21.3	90.3
TOE APPROACH RD TO TRACK	252° 10'	3.63		-	1° 38'	-10.4	10.0	-20.4	91.2
SHLDR " " "	256° 20'	3.63		-	2° 0'	-12.5	5.0	-17.5	94.1
G. E	251° 02'	3.80		-	2° 02'	-13.5	5.0	-18.5	93.1
"	248° 52'	3.82		-	1° 56'	-12.7	10.0	-22.7	88.9
"	241° 24'	4.00		-	1° 49'	-12.7	10.0	-22.7	88.9
" COR SHED	240° 45'	3.12		-	3° 17'	-17.8	5.0	-22.8	88.8
G. E. AT BLDG	230° 20'	3.86		-	1° 43'	-11.5	10.0	-21.5	90.1
NO. SHLDR FOUNDRY RD	249° 54'	2.86		-	3° 13'	-16.0	5.0	-21.0	90.6
TOE " B SLOPE	250° 40'	2.82		-	2° 39'	-13.0	10.0	-23.0	88.6
G. E	252° 15'	2.80		-	2° 38'	-12.9	10.0	-22.9	88.7
Top BACK SLOPE	253° 05'	2.80		-	2° 15'	-11.0	10.0	-21.0	90.6
G. E	267° 50'	2.53		-	2° 0'	-8.7	5.0	-13.7	97.9
TREE 18" OK	237° 35'	2.06							
" 18" OK	243° 15'	1.72							
" 18" OK	190° 24'	3.20							

Page 17 Transit WILKE Obs. AL. M Line 11-23-45
 Date 11-23-45 Rec. AL. M

OBJECT	4.1. 911.61		DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
	AZIMUTH	STADIA		Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G. E	253° 48'	1.47		-	4° 10'	-10.7	5.0	-15.7	95.9
"	236° 53'	1.65		-	4° 08'	-11.9	10.0	-21.9	89.7
"	227° 0'	1.80		-	4° 25'	-13.9	10.0	-23.9	87.7
Top RD SHOULDR	225° 15'	1.87		-	3° 53'	-12.7	10.0	-22.7	88.9
G. E AT BLDG	215° 17'	3.92		-	1° 46'	-12.1	10.0	-22.1	89.5
" N.E COR FOUNDRY	200° 52'	3.30		-	1° 43'	-9.9	12.0	-21.9	89.7
TREE 24" OK	189° 08'	3.09							
G. E	186° 03'	3.10		-	3° 24'	-18.4	5.0	-23.4	88.2
"	181° 16'	3.17		-	3° 03'	-16.9	5.0	-21.9	89.7
DITCH	179° 18'	3.18		-	2° 41'	-14.9	10.0	-24.9	86.7
Top DITCH SLOPE	175° 17'	3.25		-	2° 46'	-15.7	5.0	-20.7	90.9
G. E	164° 24'	3.52		-	2° 05'	-12.8	10.0	-22.8	88.8
TOE OF FILL	156° 06'	3.93		-	1° 47'	-12.3	10.0	-22.3	89.3
Top " "	154° 35'	4.03		-	1° 56'	-13.6	5.0	-18.6	93.0
G. E NEW FILL	145° 00'	4.40		-	0° 40'	-5.1	10.0	-15.1	96.5
G. E NTS FENCE	134° 20'	5.15		-	0° 45'	-6.7	5.0	-13.7	97.9
Φ CAMPUS TRACKS	133° 56'	5.40		-	0° 23'	-3.6	8.0	-11.6	00.0

Page 18 Transit WILKE Obs. WILKE Line WILKE
 Date 11-23-45 Rec. ALM

OBJECT	AZIMUTH	STADIA	Dis- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
G.E	132° 40'	5.50				10.5		01.1
SHLDR ENSTIS-ST.	131° 25'	5.63				8.8		02.8
⊥ " "	130° 0'	5.78				8.4		03.2
" " "	120° 23'	5.12				5.7		05.9
SHLDR " "	121° 00'	4.95				5.9		05.7
TOE FILL SLOPE	121° 18'	4.82				8.3		03.3
G.E NEW FILL	121° 50'	4.73				8.7		02.9
SHLDR CAMPUS TRACK	121° 50'	4.68				7.6		04.0
⊥ CAMPUS TRACK	121° 50'	4.58				7.7		03.9
EDGE NEW FILL	128° 00'	3.64				10.7		00.9
G.E FILL SLOPE	129° 33'	3.50		- 0° 45'	-4.6	10.0	-14.6	97.0
G.E	137° 38'	2.84		- 1° 20'	-6.6	10.0	-16.6	95.0
"	153° 55'	2.09		- 3° 55'	-14.3	5.0	-19.3	92.3
"	170° 03'	1.82		- 3° 03'	-9.7	10.0	-19.7	91.9
Top DITCH SLOPE	175° 30'	1.88		- 3° 23'	-11.1	10.0	-21.1	90.5
DITCH	178° 49'	1.87		- 4° 15'	-13.8	10.0	-23.8	87.8
G.E	184° 55'	1.76		- 4° 39'	-14.3	10.0	-24.3	87.3

Page 19 Transit WILKE Obs. AL MS Line H.I 911.61
 Date 11-23-45 Rec. AL MS

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G.E	198° 00'	1.78		-	4° 12'	-13.0	10.0	-23.0	88.6
G.E.+36" OAK TREE	209° 00'	1.23		-	5° 27'	-11.7	10.0	-21.7	89.9
" +30" " "	152° 33'	1.10		-	4° 56'	-9.4	10.0	-19.4	92.2
G.E SLOPE	180° 11'	1.18		-	5° 46'	-11.8	10.0	-21.8	89.8
Top BANK	141° 16'	1.68		-	2° 50'	-8.3	10.0	-18.3	93.3
TOE SLOPE	130° 00'	1.67		-	3° 39'	-11.6	10.0	-21.6	90.0
Top BANK	131° 21'	1.75		-	4° 10'	-12.7	5.0	-17.7	93.9
G.E SLOPE	127° 12'	2.04		-	4° 19'	-15.4	5.0	-20.4	91.2
Top BANK	129° 21'	2.04		-	4° 53'	-17.4	5.0	-22.4	89.2
G.E 24" OAK	131° 04'	2.04		-	2° 50'	-10.1	10.0	-20.1	91.5
G.E	114° 07'	1.99		-	2° 50'	-9.7	5.0	-14.7	96.9
"	112° 50'	2.69		-	2° 06'	-9.7	5.0	-14.7	96.9
"	109° 40'	2.60		-	1° 32'	-6.9	5.0	-11.9	99.7
To Hub #4	180° 00'	5.63		-	1° 22'	-13.42	10.00	-23.42	888.40
AT Hub #4	H.I. 5.35		H.I =						893.75
To Hub #3	0° 00'	5.63		+	1° 47'	17.52	5.00	+12.52	906.36

Page. 20. Transit. Obs. WILKE. Line.
 Date. 11-23-45. Rec. R.L.M.

OBJECT	HI 893.75		Dis- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
	AZIMUTH	STADIA		Up+ Down-	No. of Int. or Angle	Rod Equiv.			
TOE FILL SLOPE	00° 15'	1.87					7.6		86.2
G.E. N.W. COR. OAK GROVE	05° 47'	1.85					6.0		87.8
TOE FILL SLOPE	07° 00'	2.22					6.2		87.6
" G.E. N.E. COR. OAK GROVE	38° 18'	2.50					5.2		88.6
TOE FILL SLOPE	40° 27'	2.33					5.2		88.6
TOE " "	49° 16'	2.00					6.4		87.4
" " "	37° 07"	1.18					8.8		85.0
G.E. S.W. COR. OAK GROVE	22° 52'	1.10					6.8		87.0
G.E. CENTER OAK GROVE ⁴ TREE	20° 40'	1.63					5.7		88.1
N.O. END. 30" CONC. ENT. CULV	23° 08'	0.37					7.5		84.3
W SHLDR. FOUNDRY RD	356° 53'	0.35					5.5		88.3
" ENT. TO BLIND ^{HOME}	24° 20'	0.36					5.6		88.2
" " " " "	32° 15'	0.45					5.6		88.2
TOP FILL	53° 20'	1.41					3.5		90.3
" " "	55° 00'	2.12					3.5		90.3
20" OAK + G.E.	57° 15'	2.53					1.7		92.1
N.W. COR. BLIND HOME	62° 44'	2.81					0.9		92.9

Page 21 Transit WILKE Obs. WILKE Line WILKE
 Date 11-23-45 Rec. AL MS

OBJECT	#1	893.75	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
						Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G.E. TOP NEW FILL			62° 18'	3.73		+	0° 59'	+5.7	5.0	+0.7	94.5
G.E. + 30" OAK			72° 00'	2.36					2.5		91.3
S.W. COR BLIND HOME			79° 54'	2.54					0.00		93.8
G.E.			79° 54'	2.51					2.00		91.8
18" OAK			81° 44'	2.50					0.00		93.8
G.E.			83° 34'	2.90		+	1° 34'	+7.9	5.0	+2.9	96.7
11-26-45											
G.E.			349° 45'	0.88					4.7		89.1
"			305° 25'	1.28					5.2		88.6
" COR. BLDG			293° 55'	1.86					5.1		88.7
TOE SLOPE			280° 56'	3.33					8.2		85.6
TOP BANK			279° 56'	3.62		+	2° 15'	+14.2	5.0	+9.2	03.0
Q. M.T. TRACKS			264° 54'	4.33		+	2° 28'	+18.6	10.0	+8.6	02.4
TOP BANK			264° 45'	3.80		+	2° 40'	+17.7	10.0	+7.7	01.5
" "NO. END BRIDGE			255° 10'	4.24		+	1° 35'	+11.7	5.0	+6.7	00.5
" BANK			258° 04'	3.68					4.2		89.6
TOE BRIDGE ABUTMENT			253° 45'	3.95					9.4		84.4

Page 22 Transit WILKE Obs. WILKE Line WILKE
 Date 11-26-45 Rec. R.L.M.

OBJECT	H.I 893.75 AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
G. E TOE SLOPE	257° 10'	3.60				10.4		83.4
" " "	261° 06'	3.33				10.0		83.8
G. E	258° 40'	2.14				7.8		86.0
"	252° 05'	0.97				7.1		86.7
"	189° 05'	0.26				5.3		88.5
"	191° 27'	1.96				9.6		84.2
Top CURB NO S. IDE Como	195° 35'	1.93				9.4		84.4
" " " " "	233° 22'	2.40				11.2		82.6
" " " " "	247° 56'	3.46				10.7		83.1
" " " " "	252° 18'	4.30				11.2		82.6
Φ. COMO AT BRIDGE	249° 16'	4.35				11.1		82.7
" " AVE	240° 28'	3.20				10.6		83.2
CENTER M. HOLE	211° 00'	2.87				9.8		84.0
Φ COMO AVE	187° 30'	2.35				9.5		84.3
30" CONC So END	89° 25'	0.21				10.2		83.6
Top FILL	115° 15'	0.92				5.7		88.1
TOE "	118° 35'	0.95				9.7		84.1

Page. 23 Transit. Obs. WILKE Line.
Date. 11-26-45 Rec. A.L.M.

OBJECT	H.I. 893.75 AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
Top FILL	100° 35'	1.66					3.8		90.0
TOE "	103° 13'	1.68					10.9		82.9
" "	98° 00'	2.40					6.9		86.9
Top "	97° 24'	2.40					4.0		89.8
" "	98° 00'	3.55					0.0		93.8
TOE "	99° 20'	3.53					2.0		91.8
WALK	98° 50'	3.68		+ 1° 00'	+6.4		5.0	+1.4	95.2
Top SLOPE	113° 04'	3.92					1.0		92.8
TOE "	113° 27'	3.80					3.6		90.2
G.E.	122° 40'	2.53					7.8		86.0
"	146° 30'	1.42					10.0		83.8
"	173° 28'	1.14					6.7		87.1
"	180° 10'	1.13					8.2		85.6
SHLDR RD.	183° 40'	0.56					6.6		87.2
G.E.	183° 00'	1.73					10.2		83.6
"	164° 15'	2.12					9.8		84.0
"	152° 10'	2.86					9.6		84.2

Page 24 Transit.....Obs. WILKE Line.....
 Date 11-26 Rec. FLM

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	<u>41 893.75</u>								
G. E	143° 26'	3.83					8.9		84.9
"	138° 12'	5.00					7.8		86.0
WALK	138° 12'	5.20					6.3		87.5
Top CURB No. SIDE Como	141° 35'	5.30					7.4		86.4
" " " " "	148° 00'	4.05					8.1		85.7
" " " " "	156° 15'	3.03					8.7		85.1
" " " " "	173° 00'	2.25					9.1		84.7
COMO WVE	183° 49'	2.32					9.4		84.4
" " "	159° 00'	3.32					8.7		85.1
" " "	143° 40'	5.48					7.3		86.5
N.E COR BLDG	155° 03'	4.46					9.5		84.3
N.W " "	159° 43'	4.08					11.0		82.8
S.W " "	158° 18'	7.							
N.W " "	169° 08'	5.05					13.1		80.7
S.W " "	170° 25'	5.18					13.1		80.7
N.W. " "	172° 45'	6.62							
N.E. " "	171° 35'	6.70							

Page 25 Transit Obs. WILKE Line
 Date 11-26-45 Rec. FLM

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int.	Rod			
				Down-	or Angle	Equiv.			
<u>HJ</u>	<u>893.75</u>								
S.W. COR BLDG	177° 16'	8.00							
N.W. COR R.R. COACH	151° 19'	5.30							
N.E. " " "	150° 45'	5.38							
To Hub #5	142° 20'	5.03					6.8		886.95
At Hub #5	(PB 535 ? WB)		<u>892.3</u>						
To Hub #4	322° 20'	5.03					3.9		888.40
N.E. COR BLDG	267° 05'	1.19							
S.E. COR "	237° 40'	1.90							
N.W. " "	228° 33'	2.26							
N.E. " "	222° 41'	2.18							
S.E. " "	221° 30'	2.36							
S.E. R.R. COACH	209° 22'	1.58							
N.W. COR BLDG	152° 13'	1.78							
N.E. " "	149° 14'	1.94							
S.W. " "	161° 40'	2.00							

Date 11-26-48 Rec. ALM

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			

Page 27 Transit Obs. Line

Date _____ Rec. _____

Page 28 Transit Obs. Line

Date..... Rec.....

Page 33 Transit Wilke Obs. San Laro. Ave. Line
 Date Nov 28 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<u>Σ R.R. Track.</u>	<u>5° 20'</u>		<u>62</u>	<u>-9° 29'</u>	<u>-10.2</u>	<u>19.0</u>	<u>-29.2</u>	<u>13.9</u>	
" " "	<u>355° 11'</u>		<u>1.39</u>	<u>-7° 37'</u>	<u>-18.4</u>	<u>10.0</u>	<u>-28.4</u>	<u>14.7</u>	
" " "	<u>355° 11'</u>		<u>2.22</u>	<u>-5° 45'</u>	<u>-22.0</u>	<u>5.0</u>	<u>-27.0</u>	<u>16.1</u>	
" " "	<u>355° 21'</u>		<u>3.35</u>	<u>-2° 41'</u>	<u>-15.7</u>	<u>10.0</u>	<u>-25.7</u>	<u>17.4</u>	
" " "	<u>355° 13'</u>		<u>4.40</u>	<u>-1° 59'</u>	<u>-15.3</u>	<u>10.0</u>	<u>-25.3</u>	<u>17.8</u>	
" " "	<u>355° 13'</u>		<u>5.52</u>	<u>-1° 57'</u>	<u>-18.8</u>	<u>5.0</u>	<u>-23.8</u>	<u>19.3</u>	
" " "	<u>355° 07'</u>		<u>6.76</u>	<u>-1° 03'</u>	<u>-12.4</u>	<u>10.0</u>	<u>-22.4</u>	<u>20.7</u>	
" " "	<u>355° 16'</u>		<u>8.05</u>	<u>-0° 48'</u>	<u>-11.2</u>	<u>10.0</u>	<u>-21.2</u>	<u>21.9</u>	
" " "	<u>355° 17'</u>		<u>9.20</u>	<u>-0° 37'</u>	<u>-10.0</u>	<u>10.0</u>	<u>-20.0</u>	<u>23.1</u>	
" " "	<u>175° 20'</u>		<u>2.97</u>	<u>-5° 17'</u>	<u>-27.3</u>	<u>5.0</u>	<u>-32.3</u>	<u>10.8</u>	
" " "	<u>175° 20'</u>		<u>1.56</u>	<u>-7° 56'</u>	<u>-21.6</u>	<u>10.0</u>	<u>-31.6</u>	<u>11.5</u>	
<u>Toe of R.R. Slope</u>	<u>355° 55'</u>		<u>6.80</u>	<u>-1° 09'</u>	<u>-13.7</u>	<u>10.0</u>	<u>-23.7</u>	<u>19.4</u>	
" " "	<u>355° 51'</u>		<u>8.10</u>	<u>-0° 51'</u>	<u>-12.0</u>	<u>10.0</u>	<u>-22.0</u>	<u>21.1</u>	
" " "	<u>355° 38'</u>		<u>9.26</u>	<u>-0° 40'</u>	<u>-10.7</u>	<u>10.0</u>	<u>-20.7</u>	<u>22.4</u>	

Page 29 Transit Wilke Obs. Sa. Lamp. Ave. Line.
 Date Nov 28 - 45 Rec. Clark

OBJECT	H.I. 955.71 AZIMUTH STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
			Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	H.I. = 5.15							
At Hub #1	180° -			No. = 0° 00'				950.56
Shld Rd	318° 36'	1.92	-	1° 12'	- 4.1	10.0	-14.1	41.6
Toe slope	315° 10'	1.84	-	2° 43'	- 8.7	10.0	-18.7	37.0
Shld Rd.	303° 20'	2.75	-	1° 12'	- 5.8	10.0	-15.8	39.9
Toe of Ridge	304° 27'	1.64	-	3° 40'	- 10.5	10.0	-20.5	35.2
Toe slope	299° 20'	2.63	-	2° 29'	- 11.5	10.0	-21.5	34.2
Top Ridge	300° 50'	1.57	-	2° 12'	- 6.0	10.0	-16.0	39.7
G. E.	288° 40'	2.35	-	3° 24'	- 14.0	10.0	-24.0	31.7
Toe of Ridge	297° 05'	1.51	-	4° 07'	- 10.9	10.0	-20.9	34.8
G. E.	277° 30'	2.26	-	3° 31'	- 13.8	10.0	-23.8	31.9
Toe of Ridge	279° 52'	1.36	-	5° 17'	- 12.5	10.0	-22.5	33.2
Top of Ridge	276° 30'	1.35	-	4° 02'	- 9.5	10.0	-19.5	36.2
Toe " "	275° -	1.34	-	4° 55'	- 11.5	10.0	-21.5	34.2
Top " "	263° 20'	2.12	-	4° 55'	- 18.2	10.0	-28.2	27.5
Toe " "	262° 10'	2.13	-	4° 49'	- 17.9	10.0	-27.9	27.8
" " Bank	260° 10'	1.35	-	5° 33'	- 13.1	10.0	-23.1	32.6
Top " "	256° 20'	1.38	-	4° 20'	- 10.4	10.0	-20.4	35.3

Page 30 Transit. Obs. W. I. Ke Line.
 Date Nov 28 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	955.71 DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
Toe of Bank	254° 30'		2.06	-5° 11'	-18.5	10.0	-28.5	27.2
Top " "	252° 35'		2.05	-5° 49'	-20.8	5.0	-25.8	29.9
G. E.	230° 20'		1.70	-3° 59'	-11.9	5.0	-16.9	38.8
" "	240° 20'		2.36	-4° 18'	-17.6	10.0	-27.6	28.1
" "	215° 38'		2.09	-3° 45'	-13.7	5.0	-18.7	37.0
" "	222° 06'		2.60	-3° 58'	-18.0	12.0	-30.0	25.7
" "	212° 20'		2.35	-3° 11'	-13.0	10.0	-23.0	32.7
" "	227° 25'		3.29	-3° 21'	-19.2	10.0	-29.2	26.5
" "	231° 27'		3.86	-4° 36'	-30.2	10.0	-40.2	15.5
Top Bank	245° 20'		2.80	-4° 44'	-23.2	5.0	-28.2	27.5
G. E.	238° 55'		3.65	-4° 03'	-25.8	10.0	-35.8	19.9
" "	248° 25'		2.83	-4° 02'	-20.0	10.0	-30.0	25.7
" "	249° 33'		2.82	-4° 40'	-22.8	10.0	-32.8	22.9
" "	249° 33'		3.44	-4° 26'	-26.6	10.0	-36.6	19.1
Top Bank	254° 44'		3.45	-5° 14'	-31.5	5.0	-36.5	19.2
Toe "	255° 20'		3.46	-4° 54'	-29.5	10.0	-39.5	16.2
G. E.	258° -		2.75	-4° 31'	-21.6	10.0	-31.6	24.1

Page 31 Transit W. J. Ke Obs. W. J. Ke Line W. J. Ke
 Date Nov 28 - 45 Rec. C. J. Ke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
T 955.71								
Toe of Bank	265° 55'		3.50	- 4° 36'	-28.1	10.0	-38.1	17.6
G. E.	272° 51'		2.80	- 4° 55'	-24.0	5.0	-29.0	26.7
" "	278° 13'		3.66	- 2° 39'	-16.9	10.0	-26.9	28.8
" "	278° 10'		3.25	- 3° 51'	-21.8	10.0	-31.8	23.9
" "	285° 40'		2.85	- 3° 51'	-19.2	5.0	-24.2	31.5
" "	287° 43'		3.20	- 3° 35'	-20.0	10.0	-30.0	25.7
Toe of Shld.	292° 20'		3.03	- 3° 08'	-16.6	10.0	-26.6	29.1
" " "	290° 40'		3.72	- 2° 40'	-17.3	5.0	-22.3	33.4
Shld of Rd.	298° 10'		3.15	- 2° 12'	-12.1	5.0	-17.1	38.6
" " "	292° 43'		3.82	- 1° 58'	-12.9	5.0	-17.9	37.8
" " "	289° 45'		4.32	- 1° 46'	-13.3	5.0	-18.3	37.4
G. E.	278° 20'		4.02	- 3° 02'	-21.3	5.0	-26.3	29.4
Toe of Shld.	288° 27'		4.30	- 1° 25'	-10.6	10.0	-20.6	35.1
Top Ridge	267° 05'		4.05	- 3° 20'	-23.5	10.0	-33.5	22.2
Toe "	264° 24'		4.02	- 4° 05'	-28.6	10.0	-38.6	17.1
G. E.	250° 40'		4.10	- 5° 12'	-37.2	5.0	-42.2	13.5
" "	246° 20'		4.25	- 4° 08'	-30.6	10.0	-40.6	15.1

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 Date Nov 28-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G. E.	242°55'	1955.71	4.42	-3°57'	-30.4	10.0	-40.4	15.3	
Top spur track cut	236°20'		4.57	-3°	-24.0	10.0	-34.0	21.7	
At. Hub #2A = 3+54.69 at Lamp Ave on R.R. Bridge No. = 0°00'									
935.86 + 7.20 H.I. 940.06 H.I. 943.06 5.35 to Top Bridge									
Toe of R.R. slope	163°40'		4.60	-3°01'	-24.2	10.0	-34.2	08.9	
"	165°20'		4.24	-3°04'	-22.6	11.0	-33.6	09.5	
"	167°30'		3.40	-4°57'	-29.3	5.0	-34.3	08.8	
"	167°30'		2.77	-4°52'	-23.4	10.0	-33.4	09.7	
"	167°30'		1.86	-6°37'	-21.4	10.0	-31.4	11.7	
"	167°30'		1.37	-9°20'	-22.2	10.0	-32.2	10.9	
"	168°27'		.68	-10°46'	-12.7	19.0	-31.7	11.4	
"	11°54'		.64	-11°05'	-12.3	18.0	-30.3	12.8	
"	359°35'		1.40	-8°05'	-19.7	10.0	-29.7	13.4	
"	357°20'		2.26	-6°	-23.6	5.0	-28.6	14.5	
"	356°25'		3.37	-2°51'	-16.7	10.0	-26.7	16.4	
"	356°16'		4.40	-2°02'	-15.6	10.0	-25.6	17.5	
"	356°		5.56	-2°01'	-19.6	5.0	-24.6	18.5	

Page 1 Transit Obs. Wilke Line
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Page. 2 Transit. Wilke Obs. Hub #1 Line. Hub #1
 Date. Nov - 27 - 45 Rec. Clark

HI 946.12

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
B.M Spk in P.P 114' West of E Walnut									
+ π Elev									
10.26 946.12 ^v 935.86									
To West Cor Sec	270° 00'	660.12							
At Hub # 1 No. = 0° 00'									940.77
To Hub # 2	0° 00'		4.17	+ 2° 03'	+ 14.9	5.0	+ 9.9	956.15	956.02
shld Line	299° 50'		46			6.5	- 6.5	39.6	
Toe slope	299° 50'		59			8.4	- 8.4	37.7	
shld Line	4° -		1.83	+ 2° 28'	+ 7.9	5.0	+ 2.9	49.0	
Toe slope	281° -		1.48			9.8	- 9.8	36.3	
shld. Line	278° 15'		1.45			8.1	- 8.1	38.0	
E Walnut st	0° 00'		1.84	+ 2° 26'	+ 7.8	5.0	+ 2.8	48.9	
shld Line	4° 40'		1.83	+ 2° 18'	+ 7.4	5.0	+ 2.4	48.5	
Toe slope	353° -		1.84	+ 1° 59'	+ 6.4	5.0	+ 1.4	47.5	
N.E. Cor Bridge RR.	275° 33'		2.63			8.8	- 8.8	37.3	
Top R.R. Cut.	278° 20'		2.60			7.1	- 7.1	39.0	

Page 3 Transit Wilke Obs. Hub #1 Line
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OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<u>Top slope</u>	<u>350° 43'</u>		<u>183</u>	<u>+</u>	<u>2° 35'</u>	<u>+ 8.2</u>	<u>5.0</u>	<u>+ 3.2</u>	<u>49.3</u>
<u>" R.R. CUT</u>	<u>291° -</u>		<u>2.84</u>				<u>4.6</u>	<u>-4.6</u>	<u>41.51</u>
<u>G.E.</u>	<u>336° 30'</u>		<u>1.97</u>	<u>+</u>	<u>1° 45'</u>	<u>+ 6.0</u>	<u>5.0</u>	<u>+ 1.0</u>	<u>47.1</u> ✓
<u>" "</u>	<u>296° 23'</u>		<u>2.28</u>				<u>4.8</u>	<u>-4.8</u>	<u>41.3</u>
<u>" "</u>	<u>325° -</u>		<u>2.18</u>				<u>2.0</u>	<u>-2.0</u>	<u>44.1</u>
<u>" "</u>	<u>305° 12'</u>		<u>1.62</u>				<u>8.3</u>	<u>-8.3</u>	<u>37.8</u>
<u>" "</u>	<u>313° 49'</u>		<u>2.60</u>	<u>+</u>	<u>0° 35'</u>	<u>+ 2.6</u>	<u>5.0</u>	<u>-2.4</u>	<u>43.7</u>
<u>Toe slope</u>	<u>341° 53'</u>		<u>98</u>				<u>5.7</u>	<u>-5.7</u>	<u>40.4</u>
<u>shld. Line</u>	<u>349° 38'</u>		<u>97</u>				<u>2.9</u>	<u>-2.9</u>	<u>43.2</u>
<u>" "</u>	<u>7° 45'</u>		<u>1.02</u>				<u>2.1</u>	<u>-2.1</u>	<u>44.0</u>
<u>Top R.R. CUT</u>	<u>303° 28'</u>		<u>3.25</u>				<u>1.5</u>	<u>-1.5</u>	<u>44.6</u>
<u>" " "</u>	<u>313° 13'</u>		<u>3.78</u>	<u>+</u>	<u>1° 05'</u>	<u>+ 7.2</u>	<u>5.0</u>	<u>+ 2.2</u>	<u>48.3</u>
<u>G.E.</u>	<u>321° 38'</u>		<u>3.35</u>	<u>+</u>	<u>1° 09'</u>	<u>+ 6.7</u>	<u>5.0</u>	<u>+ 1.7</u>	<u>47.8</u>
<u>" "</u>	<u>338° 40'</u>		<u>2.97</u>	<u>+</u>	<u>1° 41'</u>	<u>+ 8.7</u>	<u>5.0</u>	<u>+ 3.7</u>	<u>49.8</u>
<u>Top R.R. CUT</u>	<u>354° -</u>		<u>2.73</u>	<u>+</u>	<u>2° 21'</u>	<u>+ 11.2</u>	<u>5.0</u>	<u>+ 6.2</u>	<u>52.3</u>
<u>ditch Line</u>	<u>355° 38'</u>		<u>2.70</u>	<u>+</u>	<u>2° 15'</u>	<u>+ 10.6</u>	<u>5.0</u>	<u>+ 5.6</u>	<u>51.7</u>
<u>shld. Rd.</u>	<u>356° 41'</u>		<u>2.71</u>	<u>+</u>	<u>2° 25'</u>	<u>+ 11.4</u>	<u>5.0</u>	<u>+ 6.4</u>	<u>52.5</u>

Page. 4 Transit. W. L. K. Obs. Hub #1 & 2 Line. Nov. 27 - 45 Date. Clark Rec.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
¢ Rd	0° 00'		270	+	2° 30'	+ 11.8	5.0	+ 6.8	52.9.
East shld Line	2° 52'		271	+	2° 30'	+ 11.8	5.0	+ 6.8	52.9.
At Hub # 2	H.I. = 5.35		HI		961.50				956.15
To Hub # 1	180° —		4.17	-	1° 28'	- 10.65	10.0	- 20.65	940.77 940.85.
To Hub # 3	0° 00'		6.36				8.20		953.25 953.30.
E. shld. Rd	90° —		13				5.7	- 5.7	55.8.
" " "	10° —		67				5.0	- 5.0	56.5.
W. " "	270° —		14				5.7	- 5.7	55.8.
" " "	347° 04'		63				5.2	- 5.2	56.3.
Top slope	270° —		24				8.7	- 8.7	52.8.
ditch Line	341° 09'		6.7				6.2	- 6.2	55.3.
Top Slope	333° 40'		70				5.2	- 5.2	56.3.
¢ Draw	275° 40'		1.04				13.1	- 13.1	48.4.
G. E.	302° 30'		1.26				6.5	- 6.5	55.0.
¢ Draw	275° 30'		2.06	-	1° 52'	- 6.7	10.0	- 16.7	44.8.
G. E.	290° 42'		202				9.4	- 9.4	52.1.

Page 5 Transit W. I. Ke Obs. Hub #2 Line
 Date Nov. 27 - 45 Rec. Clark

OBJECT <i>HI. 96150</i>	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<i>£ Draw</i>	<i>272° 38'</i>		<i>2.60</i>	<i>-</i>	<i>2° 22'</i>	<i>- 10.7</i>	<i>10.0</i>	<i>- 20.7</i>	<i>40.8</i>
<i>Top R.R. Cut</i>	<i>284° 46'</i>		<i>3.03</i>	<i>-</i>	<i>0° 56'</i>	<i>- 4.9</i>	<i>10.0</i>	<i>- 14.9</i>	<i>46.6</i>
<i>" " "</i>	<i>268° 02'</i>		<i>3.00</i>	<i>-</i>	<i>2° 25'</i>	<i>- 12.6</i>	<i>10.0</i>	<i>- 22.6</i>	<i>38.9</i>
<i>" " "</i>	<i>295° 05'</i>		<i>3.24</i>	<i>-</i>	<i>1° 12'</i>	<i>- 6.8</i>	<i>10.0</i>	<i>- 16.8</i>	<i>44.7</i>
<i>G. E.</i>	<i>296° 34'</i>		<i>2.97</i>				<i>12.7</i>	<i>- 12.7</i>	<i>48.8</i>
<i>Top R.R. Cut</i>	<i>309° 37'</i>		<i>2.84</i>	<i>-</i>	<i>0° 38'</i>	<i>- 3.2</i>	<i>10.0</i>	<i>- 13.2</i>	<i>48.3</i>
<i>G. E.</i>	<i>307° 15'</i>		<i>2.19</i>				<i>7.1</i>	<i>- 7.1</i>	<i>54.4</i>
<i>" " "</i>	<i>319° 27'</i>		<i>3.18</i>				<i>8.5</i>	<i>- 8.5</i>	<i>53.0</i>
<i>" " "</i>	<i>321° 05'</i>		<i>1.75</i>				<i>3.9</i>	<i>- 3.9</i>	<i>57.6</i>
<i>" " "</i>	<i>336° 44'</i>		<i>2.69</i>	<i>+</i>	<i>1° 05'</i>	<i>+ 5.1</i>	<i>10.0</i>	<i>- 4.9</i>	<i>56.6</i>
<i>Top Rd. Cut</i>	<i>348° 27'</i>		<i>1.55</i>				<i>3.1</i>	<i>- 3.1</i>	<i>58.4</i>
<i>ditch Line</i>	<i>351° 50'</i>		<i>1.55</i>				<i>5.7</i>	<i>- 5.7</i>	<i>55.8</i>
<i>Top Rd. Cut</i>	<i>353° —</i>		<i>2.73</i>				<i>5.3</i>	<i>- 5.3</i>	<i>56.2</i>
<i>W. shld. Rd.</i>	<i>354° 02'</i>		<i>1.55</i>				<i>5.2</i>	<i>- 5.2</i>	<i>56.3</i>
<i>ditch Line</i>	<i>355° 07'</i>		<i>2.70</i>				<i>6.7</i>	<i>- 6.7</i>	<i>54.8</i>
<i>W. shld. Rd.</i>	<i>356° 47'</i>		<i>2.70</i>				<i>5.8</i>	<i>- 5.8</i>	<i>55.7</i>
<i>E. shld. Rd.</i>	<i>4° 18'</i>		<i>1.56</i>				<i>4.8</i>	<i>- 4.8</i>	<i>56.7</i>

Page 6. Transit. Obs. Wilke Line. Hub #283

Date Jan. 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
E. sh/d. Rd.	2° 28'		2.73				5.7	-5.7	55.8
At Hub # 3	H.I. = 5.30								953.25
To " # 2	180° -		6.36				2.6	-2.6	956.15
To " # 4	0° 00'		5.05	+ 0° 21'	+ 3.08		5.0	-1.92	956.55
To " # 3 A.	332° 43'		2.93				1.05	-1.05	957.53
E. sh/d. Rd.	177° 13'		2.84				4.1	-4.1	54.5
W. " "	182° 53'		2.80				4.4	-4.4	54.2
E. " "	154° 20'		31				5.4	-5.4	53.2
W. " "	207° 27'		32				5.4	-5.4	53.2
ditch line	185° 45'		2.80				5.7	-5.7	52.9
" "	213° -		35				7.2	-7.2	51.4
G. E.	221° 40'		39				6.7	-6.7	51.9
" "	194° 44'		2.80				5.4	-5.4	53.2
" "	246° 12'		1.13				9.1	-9.1	49.5
" "	210° 28'		2.10				8.0	-8.0	50.6
" "	221° 48'		3.42	- 0° 52'	- 5.2		10.0	-15.2	43.4
" "	228° -		3.85	- 1° 40'	- 11.2		10.0	-21.2	37.4

Page 7 Transit W. L. Ke Obs. Hub #3 Line
 Date Nov. 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
HI 958.55									
S. W. Cor. House	253° 44'		2.07	-	2° 40'	9.6	5.0	-14.6	44.0
N. E. " "	259° —		2.04	-	1° 14'	4.4	10.0	-14.4	44.2
N. W. " "	260° 19'		2.36	-	1° 37'	6.6	10.0	-16.6	42.0
Top RR. Cut	232° 29'		4.22	-	1° 47'	13.2	10.0	-23.2	35.4
G. E.	252° 58'		2.40	-	1° 57'	8.0	10.0	-18.0	40.6
Top RR. Cut	243° 49'		3.85	-	2° 20'	15.7	10.0	-25.7	32.9
G. E.	244° 06'		3.40	-	2° 15'	13.4	10.0	-23.4	35.2
" "	237° 54'		2.75	-	1° 53'	9.0	10.0	-19.0	39.6
" "	221° 51'		2.17	-	1° 08'	4.3	10.0	-14.3	44.3
" "	205° —		1.77		Direct		10.0	-10.0	48.6
Top slope	189° —		1.65				8.0	-8.0	50.6
W. side Rd.	185° 11'		1.63				6.0	-6.0	52.6
E " "	175° 40'		1.61				5.7	-5.7	52.9
S. E. Cor. Garage	264° 34'		1.20				10.5	-10.5	48.1
N. E. " "	270° 39'		1.19				9.7	-9.7	48.9
N. W. " "	270° 40'		1.40				10.8	-10.8	47.8

Page 8 Transit W. H. Ke Obs. Hub #3 & 3A Line
 Date Nov. 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
	H.I. 958.55							
S. W. Cor House	272° 39'		93			6.4	-6.4	52.2
S. E. " "	273° 25'		69			6.1	-6.1	52.5
N. E. " "	292° 19'		73			6.0	-6.0	52.6
G. E.	271° 51'		1.93	- 1° 21'	- 4.5	10.0	-14.5	44.1
S. W. Cor. House	293° 13'		1.45					
N. E. " "	299° 07'		1.51					
G. E.	271° 54'		2.65	- 3° —	- 13.9	10.0	-23.9	34.7
Top R.R. Cut	271° 33'		3.75	- 2° 58'	- 19.4	10.0	-29.4	29.2
S. W. Cor. Foundation	296° 37'		1.08					
S. E. " "	304° —		.85					
N. E. " "	306° 22'		1.02					
At Hub # 3 A								H.I. 962.48
To Hub # 3	152.43		2.93			9.3	-9.3	957.53 953.25 953.18
H. I. = 4.95								

Page 9 Transit Wilke Obs. Hub #3A Line
 Date Nov. 27-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
H1.962.48 E shld. Rd.	140° 42'		234				9.0	-9.0	53.5
W. " "	146° 21'		2.17				9.2	-9.2	53.3
ditch Line	147° 49'		2.12				10.0	-10.0	52.5
G. E.	164° -		1.85				9.2	-9.2	53.3
" "	196° 40'		1.85	- 1° 55'	- 6.1		10.0	-16.1	46.4
Toe slope	224° 00'		3.62	- 4° 37'	- 29.2		10.0	-39.2	23.3
± RR. Tracks	224° 40'		3.70	- 4° 25'	- 28.5		10.0	-38.5	24.0
" " "	236° 22'		3.25	- 4° 57'	- 28.0		10.0	-38.0	24.5
Toe slope	235° 40'		3.15	- 5° 15'	- 28.8		10.0	-38.8	23.7
G. E.	222° -		2.40	- 5° 10'	- 21.6		10.0	-31.6	30.9
" "	232° -		2.70	- 5° 37'	- 28.3		10.0	-38.3	24.2
	235° 30'		3.10	- 4° 40'	- 25.2		10.0	-35.2	27.3
E. shld. Rd.	101° 30'		1.50				4.4	-4.4	58.1
W. " "	105° 45'		1.25				4.9	-4.9	57.6
ditch Line	106° 20'		1.17				6.0	-6.0	56.5
G. E.	107° 24'		1.08				5.1	-5.1	57.4
" "	119° 20'		68				5.5	-5.5	57.0

Page 10 Transit Wilke Obs. Hub #3A Line Hub #3A
 Date Nov 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
N.W. Cor. House	186°		1.87				13.1	-13.1	49.4
G. E.	166° 20'		32				6.2	-6.2	56.3
" "	248° 20'		90	-	3° 27'	- 5.4	10.0	-15.4	47.1
" "	257° 05'		146	-	4° 43'	- 12.0	10.0	-22.0	40.5
E. Bldg. Rd.	64° 20'		1.62				3.8	-3.8	58.7
W. " "	59° 40'		1.41				3.8	-3.8	58.7
ditch like	58° 20'		1.35				4.9	-4.9	57.6
G. E.	55° 50'		1.29				3.9	-3.9	58.6
" "	260° 37'		2.27	-	5° 30'	- 21.7	10.0	-31.7	30.8
" "	260° 51'		2.37	-	6° 09'	- 25.3	10.0	-35.3	27.2
" "	260° 53'		2.70	-	5° 06'	- 24.0	10.0	-34.0	28.5
Toe Slope	262° 30'		2.78	-	5° 41'	- 27.5	10.0	-37.5	25.0
E. Tracks	262° 30'		2.87	-	5° 44'	- 28.6	10.0	-38.6	23.9
S. E. Cor. House	43° 15'		1.04				4.6	-4.6	57.9
S. W. " "	31° 56'		.89				5.5	-5.5	57.0
N. W. " "	25° 20'		1.12				5.5	-5.5	57.0
N. E. " Shed	15° 53'		.81				6.4	-6.4	56.1

Page 11 Transit Wilke Obs. Hub #3A Line
 Date Nov 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle			
	HI 962.48							
S. E. Cor Shed	17° 11'		6.8			6.4	-6.4	56.1
S. W. " "	0° 7 1/2'		6.5			7.5	-7.5	55.0
G. E.	311° 36'		96			11.6	-11.6	50.9
4 Tracks	279° 51'		300	-	4° 53'	10.0	-35.5	27.0
G. E.	272° 45'		1.57	-	2° 26'	10.0	-16.7	45.8
Toe slope	280° 40'		2.91	-	5° 20'	10.0	-37.0	25.5
G. E.	283° 25'		2.45	-	4° 33'	10.0	-29.5	33.0
" "	283° 16'		2.47	-	5° 03'	10.0	-31.7	30.8
Top R.R. CUT.	281° 06'		2.81	-	4° 36'	10.0	-32.5	30.0
G. E.	305° 51'		3.21	-	3° 58'	10.0	-32.2	30.3
Top R.R. Cut	306° 07'		3.20	-	3° 24'	10.0	-29.0	33.5
4 R.R. Tracks	301° 02'		3.66	-	3° 51'	10.0	-34.5	28.0
Toe slope	302° 25'		3.56	-	4° 10'	10.0	-35.8	26.7
Top R.R. Cut	302° 27'		3.51	-	3° 49'	10.0	-33.3	29.2
G. E.	320° 55'		2.65	-	3° 26'	5.0	-20.8	41.7
4 R.R. Tracks	312° 10'		4.40	-	3° 05'	10.0	-33.6	28.9
Toe slope	313° 03'		4.22	-	3° 21'	10.0	-34.6	27.9

Page 12 Transit.....Obs. Wilke Line Hub #3A & 4
 Date Nov 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
H1 962.48								
To RR Cut	313° 44'		430	- 3° -		- 22.5	10.0	-32.5 30.0
G E	319° 10'		4.00	- 2° 59'		- 20.8	10.0	-30.8 31.7
N.W. Cor Gar.	348° 05'		2.22	- 1° 20'		- 5.2	10.0	-15.2 47.3
S.W. " "	347° 05'		2.06					.
N. E. " "	352° 15'		2.21					.
G. E.	335° 25'		3.62	- 1° 58'		- 12.5	10.0	-22.5 40.0
" "	345° 51'		3.22	- 2° 35'		- 14.5	5.0	-19.5 43.0
" "	358° 38'		3.12	- 2° 28'		- 13.4	5.0	-18.4 44.1
At Hub #4 H.I. = 5.35								H.I. 961.90
To Hub #3	180° -		5.05				8.7	-8.7 953.25 953.20
To Hub #5	0° 00'		5.60				4.50	-4.5 957.44 957.40
E. Sh/L Rd.	7° 55'		84				7.2	-7.2 54.7
W. " "	351° -		84				7.4	-7.4 54.5
E. " "	162° 46'		43				4.7	-4.7 57.2
W. " "	199° 20'		44				5.1	-5.1 56.8
ditch Line	346° 35'		86				8.8	-8.8 53.1

Page 17 Transit 87847 Obs. W. I. Ke Line Hub #4
 Date Nov. 28 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
<u>H.I. 961.90</u> ditch line	<u>204° 44'</u>		<u>46</u>				<u>6.5</u>	<u>-6.5</u>	<u>55.4</u>
G. E.	<u>320° 26'</u>		<u>108</u>				<u>11.9</u>	<u>-11.9</u>	<u>50.0</u>
" "	<u>212° 42'</u>		<u>50</u>				<u>6.0</u>	<u>-6.0</u>	<u>55.9</u>
N. E. Cor. House	<u>240° 42'</u>		<u>84</u>				<u>7.2</u>	<u>-7.2</u>	<u>54.7</u>
S. E. " "	<u>229° 55'</u>		<u>94</u>				<u>7.2</u>	<u>-7.2</u>	<u>54.7</u>
N. W. " "	<u>245° 08'</u>		<u>111</u>				<u>8.4</u>	<u>-8.4</u>	<u>53.5</u>
E. Shld. Rd.	<u>3° 25'</u>		<u>240</u>				<u>11.4</u>	<u>-11.4</u>	<u>50.5</u>
W. " "	<u>357° 17'</u>		<u>238</u>				<u>11.3</u>	<u>-11.3</u>	<u>50.6</u>
ditch line	<u>355° 26'</u>		<u>238</u>				<u>12.6</u>	<u>-12.6</u>	<u>49.3</u>
G. E.	<u>352° 33'</u>		<u>240</u>				<u>11.8</u>	<u>-11.8</u>	<u>50.1</u>
" "	<u>316° 40'</u>		<u>164</u>	<u>-2° 39'</u>		<u>-7.6</u>	<u>10.0</u>	<u>-17.6</u>	<u>44.3</u>
" "	<u>327° 06'</u>		<u>279</u>	<u>-2° 28'</u>		<u>-12.0</u>	<u>5.0</u>	<u>-17.5</u>	<u>44.4</u>
" " + Fc. Line E+W	<u>308° 57'</u>		<u>365</u>	<u>-1° 56'</u>		<u>-12.3</u>	<u>10.0</u>	<u>-22.3</u>	<u>39.6</u>
E. Shld. Rd.	<u>1° 28'</u>		<u>362</u>				<u>10.9</u>	<u>-10.9</u>	<u>51.0</u>
W. " "	<u>357° 48'</u>		<u>361</u>				<u>11.4</u>	<u>-11.4</u>	<u>50.5</u>
ditch line	<u>356° 50'</u>		<u>361</u>				<u>12.5</u>	<u>-12.5</u>	<u>49.4</u>
G. E. + Fc. Cor.	<u>298° 45'</u>		<u>470</u>	<u>-2° 23'</u>		<u>-19.6</u>	<u>10.0</u>	<u>-29.6</u>	<u>32.3</u>

Page 14 Transit Wilke Obs. Hub #4 Line Hub #4
 Date Nov. 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
Top R.R. Cut	298° 27'		4.76	- 2° 21'	- 19.5	10.0	- 29.5	32.4
Toe slope	298° 13'		4.85	- 2° 30'	- 21.2	10.0	- 31.2	30.7
G. E.	295° -		5.25	- 2° 28'	- 22.6	10.0	- 32.6	29.3
4 R.R. Tracks	294° 44'		5.40	- 2° 19'	- 21.8	10.0	- 31.8	30.1
" " "	300° 42'		5.80	- 2° 05'	- 21.1	10.0	- 31.1	30.8
Toe slope	301° 14'		5.76	- 2° 13'	- 22.3	10.0	- 32.3	29.6
G. E.	301° 50'		5.60	- 1° 50'	- 17.9	10.0	- 27.9	34.0
S. E. Cor. Dog yard	354° 12'		3.65			11.7	- 11.7	50.2
N. E. " " "	354° 40'		3.95			11.3	- 11.3	50.6
G. E. + No. + So. Fe.	304° 45'		5.08	- 2° -	- 17.7	10.0	- 27.7	34.2
S.W. Cor. Dog yard	346° 10'		3.75			9.2	- 9.2	52.7
G. E.	309° 55'		4.65	- 1° 50'	- 14.9	10.0	- 24.9	37.0
S. E. Cor. Dog yard	345° 11'		3.86					.
N. E. " " "	346° 25'		4.30					.
S. W. " " "	338° 21'		4.07			8.9	- 8.9	53.0
G. E.	320° 55'		3.95	- 1° -	- 6.9	10.0	- 16.9	45.0
" " "	338° 29'		3.33			11.2	- 11.2	50.7

Page 15 Transit Wilke Obs. Hub #4 & 4A Line
 Date Nov 27 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
<u>H.I. 961.90</u>									
Top of Rd cut	354° 40'		3.10				12.8	-12.8	49.1
N. E. Cor. chicken coop	336° 20'		3.98				10.7	-10.7	51.2
S. E. " " "	335° 23'		3.81						
S. W. " " "	331° 25'		3.95				13.5	-13.5	48.4
ditch Line	356° 20'		3.10				13.5	-13.5	48.4
W. side Rd.	357° 40'		3.10				11.9	-11.9	50.0
Fc. Cor. runs all over	324° 09'		5.03				13.1	-13.1	48.8
E. & W. & N. & S. Fes. & G. E.	319° 36'		4.53	- 1° 30'	- 11.8		5.0	- 16.8	45.1
G. E.	311° —		6.40	- 0° 50'	- 9.3		10.0	- 19.3	42.6
At Hub #4 No. = 0° 00'	H.I. = 5.3		961.85						956.55
To Hub #3			5.05				8.7	- 8.7	953.25
To " # 4 "A"	330° 39'		8.73				13.45	- 13.45	948.41
At Hub # 4 "A"			<u>H.I. 953.39</u>						948.41
To Hub # 4	150° 39'		8.73	+ 0° 32'	- 8.1		5.0	- 13.1	956.55
To Hub # 4 "B"	341° 22 1/2'		3.32				7.75	- 7.75	945.64

Page 16 Transit Wilke Obs. Hub-4A Line
 Date Nov 28-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
<u>H1.953.39</u>								
RR. Track	197° 05'		334	-1° 40'	-9.8	12.0	-21.8	31.6
Toe of Slope	195° 30'		330	-1° 30'	-8.6	13.8	-22.4	31.0
Track	213° 09'		226	-2° 43'	-10.7	10.0	-20.7	32.7
Toe Slope	211° 16'		217	-3° 02'	-11.4	18.0	-21.4	32.0
Top of Cut	196° -		275			10.8		42.6
" " "	207° 06'		200	-1° 35'	-5.5	10.0	-15.5	37.9
No. W. Cor. old Power Ho.	192° 01'		168	-1° 02'	-3.0	10.0	-13.0	40.4
No. E. " " " "	179° 11'		156	-0° 50'	-2.3	10.0	-12.3	41.1
S. E. " " " "	175° 10'		261	-0° 21'	-1.6	10.0	-11.6	41.8
G. E. Fe Cor. ^{N+S} E. W. R.	159° 55'		282			3.4		50.0
Cor. dog Kennels	142° -		345	+0° 46'	+4.6	5.0	-0.4	53.0
" " "	142° 57'		347	+0° 41'	+4.1	5.0	-0.9	52.5
" " "	141° 37'		369	+1° 27'	+9.3	10.0	-0.7	52.7
G. E.	151° 05'		198			9.4		44.0
N. W. Cor. Shed.	134° 28'		366	+1° 22'	+8.7	5.0	+3.7	57.1
S. W. " "	135° 25'		370					
N. E. " "	133° 20'		371					

Page 17 Transit Wil Ka Obs. Hub #4A Line
 Date Nov 28 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
H1 953.39									
G. E. + F. Cor. ^{N. + S.} E. + W.	136° 44'		139				9.0	-9.0	44.4
" "	162° 40'		102				11.7	-11.7	41.7
N.W. Cor. Garage	130° 13'		391	+ 1° 29'	+ 10.1		5.0	+5.1	58.5
S.W. " "	131° 30'		394						
N.E. " "	128° 27'		402						
G. E. + F. Cor. ^{Fc + East.}	224° 10'		130	- 2° 04'	- 4.7		10.0	-14.7	38.7
Top of Cut.	230° 20'		146	- 2° 39'	- 6.8		10.0	-16.8	36.6
Toe of Slope	233° 30'		160	- 3° 55'	- 10.9		10.0	-20.9	32.5
± R.R. Track	235° 33'		172	- 3° 24'	- 10.2		10.0	-20.2	33.2
G. E.	121° 35'		347	+ 2° 19'	+ 14.0		5.0	+ 9.0	62.4
± R.R. Track	258° 28'		157	- 3° 30'	- 9.6		10.0	-19.6	33.8
Toe of Slope	259° 20'		146	- 4° 08'	- 10.5		10.0	-20.5	32.9
± R.R. Track	289° 07'		184	- 2° 22'	- 7.6		10.0	-17.6	35.8
G. E.	129° 26'		282	+ 1° 14'	+ 6.1		5.0	+ 1.1	54.5
" "	141° 26'		233				6.3	- 6.3	47.1
Toe Slope	290° 20'		175	- 2° 16'	- 6.9		13.0	-19.9	33.5
G. E. + E.W. Fc	122° 20'		179				7.9	- 7.9	45.5

Page ^{KIE 97847} 17 Transit 8.78.47 Obs. W. W. Ke Line Hub-4A
Date 11-28-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
Top R.R. Cut	260°30'	1.20					11.7	-11.7	41.7
G. Elev.	262°00'	0.83					10.2	-10.2	43.2
G. Elev.	216°20'	0.08					5.4	-5.4	48.0
G. Elev	114°50'	2.40					3.4	-3.4	50.0
"	96°00'	0.48					5.1	-5.1	48.3
Top Ridge	111°40'	2.90		+	2°04'	+10.4	5.0	+5.4	58.8
G. Elev	109°50'	3.11		+	2°32'	+13.7	5.0	+8.7	62.1
Top Ridge	91°00'	2.80		+	1°33'	+7.6	2.0	+5.6	59.0
G. Elev	90°50'	2.15					1.1	-1.1	52.3
G. Elev	32°20'	1.01					5.3	-5.3	48.1
G. Elev Nt S Fe Line	91°20'	1.00					4.8	-4.8	48.6
G. Elev	342°00'	0.90					7.2	-7.2	46.2
G. Elev + Nt S Fe Line	47°10'	1.37					2.2	-2.2	51.2
Top of Cut	301°20'	1.44					9.2	-9.2	44.2
Top R.R. Cut	298°20'	1.55					5.7	-5.7	47.7
G. E.	66°35'	2.15					1.1	-1.1	52.3
Top P.R. Cut	316°55'	2.21					6.2	-6.2	47.2

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 Date... 11-28-... Rec. Wilke...

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
Toe Cut	318° 10'	2.20					9.4	-9.4	44.0
Toe Ridge	74° 20'	2.90		+	1° 23'	+ 7.9	5.0	+2.9	56.3
Top Ridge	75° 10'	2.95		+	2° 16'	+ 11.6	5.0	+6.6	60.0
S. W Cor Gran & G. E.	73° 20'	3.11		+	1° 39'	+ 9.0	5.0	+4.0	57.4
N. W " "	71° 20'	3.15							
S. E " "	74° 40'	3.28							
G. E.	331° 00'	1.82					8.3	-8.3	45.1
G. E.	1° 45'	1.63					4.9	-4.9	48.5
G. E. + N.Y.S. Fe	31° 30'	1.89					0.9	-0.9	52.5
G. Elev	47° 10'	2.35		+	1° 00'	+ 4.1	5.0	-0.9	52.5
G. Elev.	22° 35'	2.62		+	2° 11'	+ 10.0	10.0	-0.0	53.4
G. Elev	52° 10'	3.10		+	1° 12'	+ 6.5	5.0	+1.5	54.9
Top Ridge	58° 40'	3.35		+	1° 38'	+ 9.6	5.0	+4.6	58.0
G. Elev	48° 35'	3.80		+	0° 50'	+ 5.5	5.0	+0.5	53.9
G. Elev	6° 20'	2.60		+	0° 58'	+ 4.4	5.0	-0.6	52.8
"	36° 25'	3.15		+	0° 36'	+ 3.3	5.0	-1.7	51.7
"	15° 30'	2.54					4.3	-4.3	49.1

Page 17 Transit 87847 Obs. Clark Line Walnut Hub # 4A-413
 Date 11/22/45 Rec. Wilke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
	H. I. 953.39							
Top Back Slope	15°00'	4.10		+	0°34'	+4.1	5.0	-0.9 52.5
Toe Slope	44°30'	4.16		+	0°57'	+6.9	10.0	-3.1 50.3
Shoulder	44°00'	4.22		+	1°03'	+7.7	10.0	-2.3 51.1
* Hi-Tension Trans. Tower	332°05'	2.93						
Toe Slope	327°45'	3.02					10.3	-10.3 43.1
Top R.R. Cut	324°50'	3.10					8.3	-8.3 45.1
Top R.R. Cut	327°25'	3.55					8.5	-8.5 44.9
" R.R. Cut	328°25'	3.70					4.3	-4.3 49.1
" " "	329°30'	3.95					7.1	-9.1 44.3
AT Hub # 4 "B"	H. I. 950.94							945.64
To Hub # 4 "A"	161°22' $\frac{1}{2}$	3.32					2.5	-2.5 948.41 948.44
To Hub # 4 "C"	347°1' $\frac{1}{2}$	8.47					5.0	+0.67 951.61
top of cut	99°45'	1.29					5.0	-0.3 50.6 ✓
Toe of Slope	97°45'	1.28					3.8	-3.8 47.1 ✓
Shldr. of Rd.	94°20'	1.28					2.7	-2.7 48.2 ✓
" " "	83°40'	1.28					2.6	-2.6 48.3 ✓

Page. 20 Transit. 87847 Obs. Wilke Line. Hub-4B
Date. Nov 28-45 Rec. Clark

OBJECT HI 950.94	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM	
				Up+ Down-	No. of Int. or Angle	Rod Equiv.				
Toe of Shld	82° —		1.28				4.0	-4.0	46.9	✓
¢ R.R. Track	254° 40'		1.22	-2° 41'	-5.7		10.0	-15.7	35.2	✓
Toe of slope			2.08	-1° 05'	-3.9		12.0	-15.9	35.0	
" " "	254° 40'		1.14	-2° 14'	-4.4		12.0	-16.6	34.3	
S.W. Cor. House	70° 20'		1.40				4.2	-4.2	46.7	
N.W. " "	62° 14'		1.49				4.5	-4.5	46.4	
S.E. " "	73° 31'		1.64				3.8	-3.8	47.1	
¢ R.R. Track	311° 09'		2.14	-1° 24'	-5.2		10.0	-15.2	35.7	
Top of cut	318° 33'		2.00				10.9	-10.9	40.0	
Toe of slope	322° 20'		1.90				13.3	-13.3	37.6	
¢ Hi Tension Tower	327° 40'		1.92							
Top of cut	307° 15'		1.46				8.6	-8.6	42.3	
Ge Elev	313° 15'		1.35				8.0	-8.0	42.9	
" "	317° 10'		1.30				10.5	-10.5	40.4	
Shld of Rd.	92° 55'		1.94				0.7	-0.7	50.2	
" " "	85° 45'		1.91				1.3	-1.3	49.6	
Toe " Shld.	83° —		1.90	+0° 35'	+1.9		5.0	-3.1	47.8	

Page 21 Transit Wilke Obs. Hub 4B Line Hub 4B
 Date Nov 28-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<u>Hill 950.94</u>									
Toe of shld	74° 40'		196				3.4	-3.4	47.5
shld " Rd.	74° 40'		202				2.5	-2.5	48.4
" " "	74° 40'		220				2.1	-2.1	48.8
G Elev.	339° 35'		105				11.2	-11.2	39.7
Top of Bank	75° 40'		240	+1° 30'	+ 6.3		5.0	+1.3	52.2
Top of Back slopes	83° 55'		234	+1° 17'	+ 5.2		5.0	+0.2	51.1
G Elev.	23° 50'		112				7.9	-7.9	43.0
ditch Line	85° 07'		236				1.4	-1.4	49.5
shld of Rd.	86° 51'		236				0.6	-0.6	50.3
" " "	92° 20'		236				0.6	-0.6	50.3
Toe of slope	93° 20'		240	+ 0° 49'	+ 3.4		5.0	-1.6	49.3
N. W. Cot Gar.	35° 43'		80						
S. W. " "	45° —		66						
S. E. " "	55° 20'		83						
Top of Bank	93° 45'		353	+ 1° 05'	+ 6.7		5.0	+1.7	52.6
Toe of slope	80° 08'		114				4.3	-4.3	46.6
Shld " Rd.	83° —		112				2.8	-2.8	48.1

Page 22 Transit Obs. Will Ke Line Hub 4B
 Date Nov 28-45 Rec. Slater

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	H.I. 950.94								
Toe of slope	92° 50'		354	+0° 40'	+4.1	5.0	-0.9	50.0.	
Shld. of Rd.	91° 57'		350	+0° 52'	+5.3	5.0	+0.3	51.2.	
" " "	98° —		352	+0° 52'	+5.3	5.0	+0.3	51.2.	
" " "	74° —		52			4.3	-4.3	46.6.	
Toe of slope	67° 40'		53			6.4	-6.4	44.5.	
" " "	87° 30'		355	+0° 44'	+4.5	5.0	-0.5	50.4.	
Top " Cut	85° 50'		3.55	+1° 03'	+6.5	5.0	+1.5	52.4.	
Toe of slope	305° 20'		34			9.1	-9.1	41.8.	
Shld. of Rd.	294° 26'		31			6.1	-6.1	44.8.	
G Elev.	277° 50'		76			8.3	-8.3	42.6.	
" " "	78° 10'		360	+1° 26'	+9.0	5.0	+4.0	54.9.	
" " "	58° 35'		1.72	+0° 59'	+3.0	10.0	-7.0	43.9.	
" " "	61° 40'		1.63			4.5	-4.5	46.4.	
" " "	33° —		1.22			7.1	-7.1	43.8.	
S.W. Conchicken coop	18° 45'		1.59.						
N.W. " " "	12° 32'		1.73.						
N.E. " " "	25° 40'		1.82.						

Page 23 Transit Obs. Wilke Line Hub 4B
 Date Nov 28 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
H.I. 950.94								
G. E.	352°00'	1.68				12.3	-12.3	38.6.
± Track	324°20'	3.32				14.5	-14.5	36.4.
Toe Cut	326°50'	3.28		-	1°00	- 5.7	-15.7	35.2.
Top Cut	328°30'	3.25				14.2	-14.2	36.7.
S. W. Car Coop	10°51'	2.64				12.7	-12.7	38.2.
Car. Coop	12°50'	2.66						
Car Coop	12°35'	2.72						
± Hi Ten Tower + Gen	337°07'	3.05				13.4	-13.4	37.5.
± H. Poles	343°37'	2.97				13.2	-13.2	37.7.
Gen Elev	347°00'	2.95		-	1°00'	- 5.2	-15.2	35.7.
" "	357°45'	3.60		-	1°02	- 5.4	-15.4	35.5.
" "	8°05'	3.02				13.4	-13.4	37.5.
S. W. Car Gar. + Gen Elev	19°32'	3.13				11.0	-11.0	39.9.
S. E. Car Garage	22°18'	3.20.						
NW " "	13°34'	3.32.						

Page 24 Transit Wilke Obs. Hub #5 Line
 Date Nov 28-95 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
AT Hub #5									957.44
To Hub #4	180°		560				6.3	-6.3	956.55
To Hub #6	0°00'		5.15				13.75	-13.75	949.09
H.I. 5.35									
N.E. Cor. House	250°18'		63						
N.W. " "	257°16'		96				3.2	-3.2	59.6
S.E. " "	232°		72						
N.E. " "	215°26'		84				5.3	-5.3	57.5
S.E. " "	208°40'		105						
G. Elev.	260°		96				3.2	-3.2	59.6
" "	265°10'		96	+2°01'	+3.4		5.0	-1.6	61.2
shld of Rd.	137°		21				5.3	-5.3	57.5
" " "	220°		19				5.6	-5.6	57.2
G Elev	242°30'		28				4.3	-4.3	58.5
" "	270°		30				2.7	-2.7	60.1
" "	299°10'		110	+5°01'	+9.6		10.0	-0.4	62.4
" "	310°08'		39	+3°50'	+2.6		5.0	-2.4	60.4

Page 25 Transit. Wilke Obs. Hub #5 Line
 Date Nov 28 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<u>41.962.84</u> G Elev.	319°20'		146	+	0°29'	+ 1.2	5.0	-3.8	59.0
" "	335°—		93				6.9	-6.9	55.9
" "	330°50'		192				2.0	-2.0	60.8
" "	347°15'		80				6.7	-6.7	56.1
Side of Rd.	350°10'		79				5.9	-5.9	56.9
" " "	10°13'		80				5.7	-5.7	57.1
" " "	5°09'		154				5.8	-5.8	57.0
" " "	355°36'		153				5.9	-5.9	56.9
G. Elev.	337°57'		247	+	1°14'	+ 5.3	5.0	+0.3	63.1
Top of Bank	341°40'		289	+	0°47'	+ 4.0	5.0	-1.0	61.8
Toe of slope	342°05'		300	+	0°52'	+ 4.5	10.0	-5.5	57.3
" " "	353°07'		156				6.9	-6.9	55.9
Top of Bank	350°48'		157				4.8	-4.8	58.0
G. Elev.	342°51'		163				3.5	-3.5	59.3
" "	341°25'		166				5.1	-5.1	57.7
" "	343°20'		227				2.9	-2.9	59.9
" "	347°53'		222				3.7	-3.7	59.1

Page 26 Transit Hub #5 Obs. Wilke Line Hub #5
 Date Nov 28 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
	<u>H1 962.84</u>								
S.E. Cor House	346° 31'		3.09				5.0	-5.0	57.8
S.W. " "	340° 55'		3.20	+	0° 56'	+5.2	10.0	-4.8	58.0
N.E. " "	347° 46'		3.36						
G Elev.	349° -		2.22				1.8	-1.8	61.0
" "	351° 40'		2.18				3.2	-3.2	59.6
Toe slope	354° 56'		2.18				7.7	-7.7	55.1
Shld. of Rd.	357° 07'		2.18				6.8	-6.8	56.0
" " "	3° 55'		2.18				6.8	-6.8	56.0
Toe of slope	345° 50'		2.75	+	0° 55'	+4.4	10.0	-5.6	57.2
Top of Bank	345° 13'		2.62				1.7	-1.7	61.1
" " "	350° 32'		2.64				2.3	-2.3	60.5
Toe of slope	355° 45'		2.60				8.5	-8.5	54.3
" " "	352° 25'		2.71				6.8	-6.8	56.0
Shl. Rd	2° 25'		3.54				9.6	-9.6	53.2
" "	358° 25'		3.55				9.3	-9.3	53.5
Gen Elev	356° 50'		3.56				10.0	-10.0	52.8
Shl Rd	2° 00'		4.45				12.5	-12.5	50.3

Page. 27. Transit. Obs. Wilke Line. Hub #5
Date. Rec. Clark

Page 29 Transit Wilke Obs. Hub #6 Line
 Date 11-29-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<u>H.I. 954.49</u>									
At Hub #6	H.I. = 5.4				No. = 9° 00'				949.09
To Hub #5	180° 00'		5.15	+	0° 53'	+8.0	5.0	+3.0	957.49 957.44
To Hub #7	0° 00'		3.58				0.83	-0.83	953.66 953.69
To Hub #4 B	269° 53'		5.31				8.9	8.9	945.59 945.64
S.E. Cor House	290° 47'		2.46	+	2° 20'	+10.0	5.0	+5.0	59.5
S.W. " "	291° 30'		2.72						
" "	299° 20'		2.57						
W. Walnut 28' wide	0° 00'		44				5.1	-5.1	49.4
G. Elev.	336° 40'		52				7.7	-7.7	46.8
" "	316° 27'		66				4.2	-4.2	50.3
" "	301° 57'		90				2.0	-2.0	52.5
" "	291° 57'		1.27	+	1° 42'	+3.8	5.0	-1.2	53.3
S.W. Cor. Shed	299° 40'		2.20						
S.E. " "	302° 16'		2.06						
N.E. " "	305° 08'		2.12						
S.W. Cor. Gar.	302° 14'		2.32						

Page 30 Transit. Obs. Wilke Line. Hub #6
Date Nov 29 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
S. E. Cor. Gar.	304° 20'		2.16						
N. E. " "	308° 08'		2.27	+	2° 50'	+11.2	5.0	+6.2	60.7.
G. Elev.	314° 05'		2.35	+	3° 07'	+12.8	5.0	+7.8	62.3.
" "	305° 47'		2.00	+	2° 50'	+9.9	5.0	+4.9	59.4.
" "	318° 50'		2.20	+	3° 26'	+13.2	5.0	+8.2	62.7.
" "	310° 10'		1.83	+	3° 25'	+10.9	5.0	+5.9	60.4.
" "	327° 55'		2.07	+	3° 31'	+12.7	5.0	+7.7	62.2.
" "	318° 35'		1.57	+	3° 31'	+9.6	5.0	+4.9	59.4.
" "	349° 40'		1.76	+	1° 27'	+4.5	5.0	-0.5	54.0.
" "	342° 40'		1.18	+	2° 25'	+5.0	5.0	0.0	54.5.
" "	353° 55'		1.74				3.3	-3.3	51.2.
" "	350° 40'		1.12				4.7	-4.7	49.8.
E Walnut	0° 00'		1.75				2.2	-2.2	52.3.
" "	0° 00'		2.58				0.5	-0.5	54.0.
G Elev.	356° 20'		2.62				1.1	-1.1	53.4.
" "	353° 40'		2.72	+	2° 14'	+10.6	10.0	+0.6	55.1.
" "	353° 25'		2.67	+	2° 01'	+9.4	5.0	+4.4	58.9.

Page. 31 Transit. Obs. Wilke Line. Hub #687
Date. Nov 29 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
H.I. 954.49									
G Elev	348° -		280	+ 1° 35'	+7.7	5.0	+2.2	56.7 -	
Hub #7 - Hi 958.99									
At Hub #7									953.69
To Hub #6	180° 00'		358			10.0	-10.0		948.99
To Hub #8	270° 00'		256			11.8	-11.8		949.09
									947.19
	H.I. 513								947.20
G Elev	231° 40'		180	+ 2° 26'	+7.7	5.0	+2.7	61.7	
"	234° 08'		204	+ 2° 36'	+9.3	5.0	+4.3	63.3	
"	234° 50'		235	+ 2° 07'	+8.7	5.0	+3.7	62.7	
S.E. Cor. House	234° 26'		284	+ 1° 40'	+6.1	9.0	-2.9	56.1	
S.E. Cor. Shed	239° 27'		197						
S.W. " Gar.	241° 43'		177						
N.E. " "	244° 13'		151	+ 1° 12'	+3.2	5.0	-1.8	57.2	
N.W. " "	247° 15'		170						
S.E. " House	254° 13'		121			3.3	-3.3	55.7	
N.E. " "	264° 44'		116			3.3	-3.3	55.7	
N.W. " "	265° 45'		147						

Page 32 Transit Wilke Obs. Hub # 7 Line
 Date Nov 29 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
<u>H.I. 958.99</u>									
G. Elev.	254° -		32				3.4	-3.4	55.6
" "	253° 03'		19				6.6	-6.6	52.4
S. E. Cor. Gar.	293° 45'		1.49	+ 2° 03'	+ 5.3		10.0	- 4.7	54.3
S. W. " "	291° 36'		1.64						
N. W. " "	297° 37'		1.73						
E Walnut	2° 35'		84				6.6	-6.6	52.4
G. Elev.	349° 34'		89				8.3	-8.3	50.7
" "	339° 24'		86				5.2	-5.2	53.8
S. W. Cor. House	298° 17'		101						
S. E. " "	305° 40'		82						
N. E. " "	316° 23'		96						
G Elev.	317° 20'		120				5.3	-5.3	53.7
S. E. Cor. House	319° 47'		2.64				9.6	-9.6	49.4
N. E. " "	323° 33'		2.92				9.8	-9.8	49.2
S. W. " "	334° 18'		1.87				10.2	-10.2	48.8
S. E. " "	342° 50'		176						
N. E. " "	344° 53'		196						

Page 33 Transit. Obs. Clark Line. Hub #7 & 8
 Date. Nov 29 - 45 Rec. Wilke

OBJECT <u>H.I. 958.99</u>	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
S.W. Cor. G&A	323° 30'		3.15			9.9	-9.9	49.1
S. E. " "	326° 10'		3.05					
N. E. " "	327° 40'		3.23					
Gen Elev	328° 40'		3.07			11.3	-11.3	47.7
2' Walnut	1° 15'		2.42			11.4	-11.4	47.6
Gen Elev	217° 10'		2.30			8.0	-8.0	51.0 - ?
" "	56° 25'		2.44			12.2	-12.2	46.8
" "	345° 10'		2.62			13.0	-13.0	46.0
2 Sother 20' Top	348° 15'		2.97			12.6	-12.6	46.4
<u>Hub #8 H.I. 952.40</u>								
AT D 8	H.I. = 5.20							
To D 7	90° 00'	2.56		+	2° 33' 30"	11.4	10.0	+1.4
To D 9	0° —		2.69				6.06	-6.06
N.W. Cor Ho + Gen E.	14° 03'	2.42					3.1	-3.1
N.W. Cor Gar + G.E.	22° 16'	1.93		+	1° 03'	+3.5	6.0	-2.5
S.W. Cor Gar	24° 55'	1.74		+	0° 57'	+2.9	5.0	-2.1

947.20
 953.80
 953.69
 946.34
 946.33

Page. 34 Transit. C. Clark Obs. Hub #8 Line. Hub #8
 Date. 11-29-45 Rec. W. H. K.

OBJECT <u>H.I. 952.40</u>	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
S.E. Cor Gar & G.E	28° 31'	1.79		+	1° 06'	+3.4	5.0	-1.6 50.8
S.E. Cor Coop	48° 43'	1.15		+	1° 35'	+3.2	3.0	+0.2 52.6
S.W. Cor Coop	41° 45'	1.02						
N.W. Cor Coop	38° 32'	1.08						
G. E	3° 20'	2.47					3.9	-3.9 48.5
"	349° 40'	2.55					8.0	-8.0 44.4
"	30° 30'	1.25					1.5	-1.5 50.9
"	347° 40'	2.65					10.4	-10.4 42.0
R 20' Rd	344° 55'	2.62					10.2	-10.2 42.2
Gen 4x4' outhouse	15° 42'	1.14					3.8	-3.8 48.6
G. E	340° 40'	2.72					12.3	-12.3 40.1
"	353° 00'	1.07					7.5	-7.5 44.9
"	0° 00'	2.80					7.7	-7.7 44.7
R 20' Rd	0° 40'	2.95					7.0	-7.0 45.4
G. E	331° 00'	1.21					11.7	-11.7 40.7
R 20' Rd	325° 40'	1.28					10.9	-10.9 41.5
G. E	333° 30'	3.12					13.6	-13.6 38.8

Page 35 Transit. 87847 Obs. Clark Line. Hub #8
 Date 11-29-45 Rec. Wilke

OBJECT <u>H.I. 952.40</u>	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.		
G.E.	321°45'	3.50					14.0	38.4
"	312°50'	4.13					4.9	47.5
± H. Pole	310°56'	4.80		+	0°27'	+3.8	5.0	51.2
± Steel H. Ten. Tower	308°30'	5.05		+	0°15'	+2.2	5.0	49.6
G.E.	318°00'	1.42		-	1°56'	-4.8	10.0	37.6
"	305°00'	1.85		-	2°40'	-8.6	10.0	33.8
"	303°10'	4.55					6.1	46.3
"	305°00'	4.30					4.3	48.1
"	296°20'	2.50		-	1°10'	-5.1	10.0	37.3
± 16' Sq. H. Ten. Tower	310°55'	3.73					6.9	46.3
G.E.	289°40'	3.40		-	1°00'	-5.9	10.0	36.5
"	286°20'	3.70					13.4	39.0
"	302°40'	3.30					13.5	38.9
"	281°20'	4.55		-	0°45'	-6.0	10.0	36.4
N.W. Cor Coop & Gen	277°48'	2.32					13.8	38.6
N.E. " "	278°18'	2.22						
S.E. " "	274°00'	2.18						

Page 36 Transit Jack Obs. Jack Line Hub #8
 Date 11-29-45 Rec. W. H. H.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
<u>H.I. 952.40</u>								
N.W. Cor Shed	270°00'	2.27		-	1°21'	-5.3	10.0	-15.3 37.1
N.E. Cor Shed 8' East H.C.	269°53'	2.21						
N.W. Cor Ho	269°21'	1.58					13.5	-13.5 38.9
N.E. Cor Ho + G.E.	269°12'	1.27					8.8	-8.8 43.6
S.E. Cor Ho	257°48'	1.31					9.0	-9.0 43.4
N.W. Cor Ho	251°30'	1.58					10.7	-10.7 41.7
N.E. Cor Ho	248°18'	1.35					9.5	-9.5 42.9
S.E. Cor Ho	237°56'	1.45					8.1	-8.1 44.3
G.E.	286°10'	1.04					10.6	-10.6 41.8
" "	289°40'	1.05					13.5	-13.5 38.9
" "	282°20'	1.45		-	1°50'	-4.4	10.0	-14.4 38.0
" "	279°25'	1.44					10.6	-10.6 41.8
N.W. Cor Ho 20' N.T.S.	230°40'	2.07					8.5	-8.5 43.9
N.E. Cor Ho	224°05'	1.80					8.2	-8.2 44.2
S.E. G.E. Ho	288°30'	0.66					1.9	-9.9? 42.5 ?
" "	345°00'	0.22					7.8	-7.8 44.6
" "	74°40'	0.92		+	1°05'	+1.7	1.0	+0.7 53.1

Page 37 Transit 87847 Obs. Clark Line H06 #8
 Date 11-29-45 Rec. Wilke

OBJECT <u>H.I. 952.40</u>	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
N.W. Cor Ho 20' NTS	215° 40'	2.52					8.8	-8.8	43.6
N.E. Cor Ho, G.E.	211° 43'	2.40					7.2	-7.2	45.2
N.W. Cor Ho, "	179° 16'	1.35		+	2° 57'	+7.0	2.0	+5.0	57.4
N.E. Cor Ho, "	167° 36'	1.42		+	4° 30'	+11.2	5.0	+6.2	58.6
N.W. Cor Shed G.E.W 8' NTS	113° 16'	1.08		+	4° 02'	+7.6	5.0	+2.6	55.0
N.E. Cor Shed	136° 04'	1.24		+	6° 20'	+13.7	5.0	+8.7	61.1
N.W. Cor Shed	139° 36'	1.16							
G.E.	155° 40'	1.10		+	3° 15'	+6.2	5.0	+1.2	53.6
"	128° 50'	.87		+	5° 20'	+8.1	3.0	+5.1	57.1
S.E. Cor Gar. + G.E.	191° 50'	1.10		+	1° 32'	+2.9	2.0	+0.9	53.3
N.E. " "	194° 31'	0.90		+	2° 12'	+3.4	4.0	-0.6	51.8
N.W. " "	206° 06'	0.96					4.0	-4.0	48.4
G.E.	181° 20'	0.55					0.30	-0.3	52.1
"	220° 30'	0.73					4.3	-4.3	48.1
"	225° 40'	0.81					8.4	-8.4	44.0
2 Rd.	234° 00'	0.92					7.9	-7.9	44.5
G.E.	187° 20'	2.20		+	2° 12'	+8.4	5.0	+3.4	55.8

Page 38 Transit. Obs. Wilke Line. Hub #8 & 9
Date 11-29-45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
	H. I. 952.40							
G. E	187°30'	2.10		+	2005'	+7.7	7.0	+0.7 53.1
" "	188°20'	1.70		+	2012'	+6.5	5.0	+1.5 53.9
" "	188°20'	1.40		+	2000'	+4.9	7.0	-2.1 50.3
2 Rd	206°10'	1.65				6.0	-6.0	46.4
At Hub #9	H.I. = 53				H. I. 951.63			946.33
To Hub #8	180° -	2.69				4.4	-4.4	947.23
To Hub #10	0° 00'	7.35		+	0° 26'	+5.5	5.0	+0.5 947.20
								952.13
								951.94
4 Walnut	81°10'	2.78				7.3	-7.3	44.3
G. Elev.	80° -	2.55				8.0	-8.0	43.6
" "	73°40'	1.77				1.9	-1.9	49.7
" "	71° -	1.27				3.5	-3.5	48.4
4 Walnut	73°40'	2.94				8.8	-8.8	42.8
G. Elev.	45°50'	57				6.9	-6.9	44.7
" "	72° -	2.70		+	0° 18'	+1.4	11.0	-9.6 42.0
" "	305°50'	80				6.4	-6.4	45.2
" "	64°25'	2.10				2.7	-2.7	48.9

Page 39 Transit W. Y. Ke Obs. Hub #9 Line Hub #9
 Date Nov 29 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. or Angle	Rod Equiv.			
G Elev.	282° 40'		2.28				8.8	-8.8	42.8
" "	47° 20'		1.57				6.7	-6.7	44.9
" "	280° 40'		3.10	+	0° 50'	+4.5	5.0	-0.5	51.1
" "	27° 25'		1.31				9.3	-9.3	42.3
" "	294° 15'		3.52	+	1° 27'	+8.9	5.0	+3.9	55.5
" "	346° 15'		1.40				7.8	-7.8	43.8
" "	302° 40'		2.49	+	2° 40'	+11.6	5.0	+6.6	58.2
" "	311° 30'		3.63	+	2° 15'	+14.3	5.0	+9.3	60.9
" "	326° 45'		1.80				5.0	-5.0	46.6
" "	318° -		2.25	+	2° 03'	+8.2	5.0	+3.2	54.8
" "	316° 35'		1.27				3.1	-3.1	48.5
" "	162° 20'		1.00				4.8	-4.8	46.8
" "	194° 20'		.98				8.9	-8.9	42.7
" "	211° -		1.10				12.2	-12.2	39.4
" "	215° 20'		.65				7.6	-7.6	44.0
" "	226° 35'		.79				10.7	-10.7	40.9

Page 40 Transit Wilke Obs. Hub #10
 Date Nov 29 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
At Hub #10	H.I. = 5.00								951.94
To " # 9	180° 00'		735				10.7	-10.7	946.24
To " # 11	138° 05'		5.53		-1° 56'	18.6	10.0	-28.6	946.33
									928.34
									933.12
G Elev.	84° 15'		82				7.0	-7.0	49.9
" "	84° 15'		49				4.8	-4.8	52.1
" "	32° 40'		142				9.0	-9.0	47.9
" "	20° 20'		141				6.2	-6.2	50.7
Walnuts	155° 45'		2.00		-0° 47'	-9.6	51.0	-14.6	42.3
G Elev.	350° —		133				10.3	-10.3	46.6
" "	155° 54'		6.60		-0° 56'	-10.8	6.0	-16.8	40.1
" "	349° 35'		80				6.1	-6.1	50.8
" "	156° 45'		6.10		-1° 36'	-17.0	5.0	-22.0	34.9
" "	277° —		17				5.3	-5.3	51.6
" "	265° 20'		60				10.5	-10.5	46.4
" "	162° 15'		5.35		-1° 15'	-11.7	10.0	-21.7	35.2
" "	309° 25'		97				10.8	-10.8	46.1

Page 41 Transit Wilke Obs. Hub #10 Line Hub #10
 Date Nov 29 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	<u>H.I. 956.94</u>								
G. Elev.	170° 20'		4.80	-	1° 21'	-11.3	10.0	-21.3	35.6
"	329° 20'		1.49	-	2° 10'	-5.6	10.0	-15.6	41.3
"	183° 25'		4.25	-	0° 51'	-6.3	10.0	-16.3	40.6
"	311° 40'		2.17	-	1° 36'	-6.0	10.0	-16.0	40.9
"	194° 55'		3.85	-	1° 07'	-7.5	10.0	-17.5	39.4
"	292° 40'		1.70	-	1° 42'	-5.0	10.0	-15.0	41.9
"	215° 25'		3.97	-	1° 35'	-10.9	10.0	-20.9	36.0
"	266° 50'		1.58	-	2° 31'	-7.2	10.0	-17.2	39.7
"	248° 24'		1.84	-	2° 13'	-7.1	10.0	-17.1	39.8
"	237° 15'		2.14	-	1° 26'	-5.4	10.0	-15.4	41.5
"	230° 45'		1.73	-	2° 08'	-6.4	10.0	-16.4	40.5
"	209° -		2.24	-	2° 27'	-9.6	5.0	-14.6	42.3
"	201° 50'		6.10				0.5	-0.5	56.4
"	218° 35'		9.0	-	2° 27'	-3.9	10.0	-13.9	43.0
"	232° 20'		5.8				10.3	-10.3	46.6
"	199° -		6.00	+	0 35	+6.1	5.0	+1.1	58.0
"	205° 00'		4.0				7.1	-7.1	49.8

Page 42 Transit Wilke Obs. Hub # 10 Line
 Date Nov 29 Rec. Clark H.I. 956.94

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G. Elev.	191° 45'		85				10.3	-10.3	46.6
" "	192° 05'		5.63	+ 0° 20'	+3.3		10.0	-6.7	50.2
" "	187° 35'		1.35				8.8	-8.8	48.1
" "	180° 52'		5.52	- 0° 34'	-5.5		10.0	-15.5	41.4
" "	168° 04'		1.36	- 1° 11'	-2.8		10.0	-12.8	44.1
" "	169° 05'		5.85	- 0° 56'	-9.5		5.0	-14.5	42.4
" "	145° 16'		67				7.0	-7.0	49.9
" "	118° -		90				7.8	-7.8	49.1
" "	113° -		1.45	- 2° 35'	-6.5		10.0	-16.5	40.4
" "	160° 20'		6.45	- 0° 25'	-4.7		10.0	-14.7	42.2
" "	113° 10'		1.43	- 2° 15'	-5.6		10.0	-15.6	41.3
" "	157° 03'		6.80	- 0° 56'	-11.1		5.0	-16.1	40.8
" "	143° 40'		1.55	- 3° 39'	-9.8		10.0	-19.8	37.1
\$ Parrot st	155° 50'		7.20	- 0° 48'	-10.0		5.0	-15.0	41.9
G. Elev.	153° 30'		2.04	- 2° 49'	-10.0		10.0	-20.0	36.9
" "	142° 55'		2.40	- 1° 05'	-4.7		10.0	-14.7	42.2
\$ Walnuties	143° 53'		5.90	- 2° 01'	-20.7		0.0	-20.7	36.2

Page 43 Transit..... Obs. Willie Line. Hub #10 & 11
 Date Nov 29 - 45 Rec. Clark H.I. 956.94

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
G. Elev.	144° 16'		305	-2° 36'	-13.9	10.0	-23.9	33.0
" "	145° 20'		312	-2° 29'	-13.5	5.0	-18.5	38.4
" "	144° —		570	-1° 57'	-19.4	5.0	-24.4	32.5
" "	159° 10'		335	-1° 29'	-8.7	10.0	-18.7	38.2

Nov 30 - 45

H.I. 938.65

A A + H 11	H.I. = 5.33						933.32	933.12
B To + 10	318° 05'	5.53		+2° 26'	+23.5	10.0	+13.5	952.14
B To + 12	3° 07'		4.75			12.10	-12.1	926.62

G. Elev.	309° 50'		4.40	+1° 20'	+10.2	5.0	+5.2	43.9
" "	301° 18'		3.78	+1° 15'	+8.2	5.0	+3.2	41.9
W. Walnut	191° 10'		22			4.3	-4.3	34.4
G Elev	290° 15'		3.40	+2° 15'	+13.4	5.0	+8.4	47.1
" "	245° 20'		30			7.3	-7.3	31.4
" "	291° —		337	+1° 51'	+10.8	5.0	+5.8	44.5
" "	258° 25'		42			5.7	-5.7	33.0
" "	290° 20'		2.78	+1° 22'	+6.7	5.0	+1.7	40.4

Page 44 Transit Wilke Obs. Hub #11 Line Hub #11
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G Elev.	H.I. 938.65 271° 25'		100				7.9	-7.9	30.8
" "	296° 25'		2.90	+	1° 31'	+7.7	5.0	+2.7	41.4
" "	277° 30'		1.50				7.2	-7.2	31.5
" "	297° 40'		2.96	+	1° 45'	+9.1	5.0	+4.1	42.8
" "	281° 35'		2.30	+	1° 05'	+4.3	5.0	-0.7	38.0
" "	300° —		3.00	+	1° 05'	+5.7	5.0	+0.7	39.4
" "	278° 45'		3.00	+	1° 02'	+5.4	5.0	+0.4	39.1
" "	296° —		3.62	+	1° 54'	+12.0	5.0	+7.0	45.7
" "	280° —		3.35	+	1° 28'	+8.6	5.0	+3.6	42.3
" "	299° 30'		3.96	+	1° 31'	+10.5	5.0	+5.5	44.2
" "	281° 33'		3.95	+	1° 40'	+11.5	10.0	+1.5	40.2
" "	302° 45'		4.70	+	1° 49'	+14.9	5.0	+9.9	48.6
" "	310° —		2.40	+	1° 13'	+5.1	10.0	-4.9	33.8
" "	308° —		2.10				7.5	-7.5	31.2
" "	293° 05'		2.13				4.3	-4.3	34.4
" "	322° 15'		1.90				7.3	-7.3	31.4
" "	329° 30'		1.80	-	1° 40'	-5.2	10.0	-15.2	23.5

Page 45 Transit Wilke Obs. Hub #11 Line
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DISTANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
G. Elev.	299° 15'		110			10.11	-10.1	28.6
" "	354° 20'		168	-3° -	-8.8	10.0	-18.8	19.9
" "	340° 25'		57	-2° 41'	-2.7	10.0	-12.7	26.0
W. Walnut	5° 50'		170			11.5	-11.5	27.2
" "	10° 20'		65			7.6	-7.6	31.1
G. Elev.	14° 50'		176	-1° 45'	-5.4	10.0	-15.4	23.3
" "	39° -		65	-2° 21'	-2.7	10.0	-12.7	26.0
" "	34° 50'		220	-2° 41'	-10.3	5.0	-15.3	23.4
" "	67° 45'		120	-1° 11'	-2.5	10.0	-12.5	26.2
" "	50° -		295	-0° 04'	-0.3	5.0	-5.3	33.4
" "	81° 25'		247			2.9	-2.9	35.8
" "	48° 55'		425			4.4	-4.4	34.3
" "	41° 30'		340			6.2	-6.2	32.5
" "	33° 40'		305			9.7	-9.7	29.0
" "	38° 50'		458			1.7	-1.7	37.0
" "	25° 45'		266	-1° 15'	-5.8	10.0	-15.8	22.9
" "	31° 20'		403			4.2	-4.2	34.5

Page 46 Transit W. L. Ke Obs. Hub #11 Line
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G Elev	11° 35'		2.35	-	1° 56'	-7.9	10.0	-17.9	20.8
" "	22° 20'		3.57				10.4	-10.4	28.3
W. Walnut	4° 50'		2.36				12.7	-12.7	26.0
" "	4° —		3.08				12.8	-12.8	25.9
G. Elev.	12° 47'		3.35				13.3	-13.3	25.4
" "	9° 30'		3.10				12.3	-12.3	26.4
" "	357° 40'		2.37	-	2° 04'	-8.5	10.0	-18.5	20.2
" "	7° 25'		3.10	-	1° 58'	-10.7	5.0	-15.7	23.0
" "	343° 30'		2.50	-	2° 24'	-10.5	5.0	-15.5	23.2
" "	325° 50'		2.80				12.2	-12.2	26.5
" "	359° 20'		3.10	-	1° —	-5.4	10.0	-15.4	23.3
" "	332° 05'		3.82				4.3	-4.3	34.4
" "	357° 12'		3.10				12.2	-12.2	26.5
" "	339° 26'		3.80				7.4	-7.4	31.3
" "	339° 25'		3.30				8.8	-8.8	29.9
" "	345° 26'		3.75				10.4	-10.4	28.3
" "	326° 05'		3.70				4.5	-4.5	34.2

Page 49 Transit. Obs. Wilkes Line. Hub #11
 Date Nov 30 - 45 Rec. C. L. K.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
- G. Elev.	353° 20'		3.80				13.8	-13.8	24.9
" "	339° —		4.90				3.2	-3.2	35.5
" "	359° 49'		3.85	- 0° 46'	-4.5		10.0	-14.5	24.2
" "	344° 56'		4.80	- 0° 30'	-4.2		5.0	-9.2	29.5
W. Walnut	2° 20'		3.90	- 0° 24'	-2.7		10.0	-12.7	26.0
G Elev.	3° 49'		3.95	- 0° 44'	-5.0		10.0	-15.0	23.7
" "	353° 44'		4.60				13.0	-13.0	25.7
" "	12° 55'		4.04				12.1	-12.1	26.6
" "	19° —		4.20				9.3	-9.3	29.4
" "	359° 24'		4.50	- 0° 36'	-3.9		10.0	-13.9	24.8
W. Walnut	2° 01'		4.52	- 0° 18'	-2.3		10.0	-12.3	26.4
G Elev.	5° 20'		4.40	- 0° 32'	-4.3		10.0	-14.3	24.4
" "	31° 20'		4.80	+ 0° 26'	+3.6		5.0	-1.4	37.3
" "	9° 32'		4.65	- 0° 54'	-7.3		5.0	-12.3	26.4
" "	14° 30'		4.67				10.2	-10.2	28.5
" "	29° —		5.10				3.1	-3.1	35.6
" "	27° 15'		5.93				7.4	-7.4	31.3

Page 48 Transit Wilke Obs. Hub #11 & 12
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
G Elev.	<u>H.1 938.65</u> 19°20'		5.60				10.3	-10.3	28.4
" "	14°06'		5.43				8.2	-8.2	30.5
" "	8°25'		5.30				10.6	-10.6	28.1
" "	4°11'		5.30				13.4	-13.4	25.3
W/ not	2°20'		5.35				11.3	-11.3	27.4
G Elev.	359°36'		5.37				12.8	-12.8	25.9
" "	355°40'		5.40				10.8	-10.8	27.9
" "	345°25'		5.24				8.3	-8.3	30.4
" "	339°15'		5.85	+	0°16'	+2.7	5.0	-2.3	36.4

<u>H.1. 931.97</u>									
At A # 12	H 1. 5.35								926.62
To A # 11	183°07'		4.75	+	0°46'	+6.4	5.0	+1.4	933.32 ✓
To A # 13	359°50'		6.67	+	0°30'	+5.8	5.0	+0.8	932.64 ✓
G Elev	299°35'	3.00		+	2°11'	+11.4	3.0	+8.4	40.4 ✓
" "	304°00'	2.48		+	0°43'	+3.1	2.0	+1.1	33.1
" "	306°30'	3.45		+	1°41'	+10.1	2.0	+8.1	40.1
" "	314°40'	1.95					1.7	-1.7	30.3

Page 49 Transit Hub #12 Obs. Clark Line Hub #12
 Date Nov 30 Rec. Wilke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
	H.I 931.97								
G. E	238°40'	1.40					1.3	-1.3	30.7
"	315°00'	2.80		+	0°36'	+2.9	2.0	+0.9	32.9
"	348°35'	1.38					4.7	-4.7	27.3
"	326°20'	2.35					8.1	-0.1	31.9
2 Walnut 28' Top.	357°00'	1.35					3.6	-3.6	28.4
G. E	332°40'	2.20		+	1°00'	+3.8	2.0	+1.8	33.8
"	348°00'	1.92		+	1°00'	+3.3	2.0	+1.3	33.3
"	502°0	1.34					4.9	-4.9	27.1
"	351°20'	1.89					3.9	-3.9	28.1
"	100°40'	1.36					3.0	-3.0	29.0
2 Walnut	357°44'	1.88					3.1	-3.1	28.9
G. E	210°40'	1.47					1.4	-1.4	30.6
"	4°15'	1.92					4.5	-4.5	27.5
"	8°10'	1.92					3.5	-3.5	28.5
"	42°00'	1.85					1.6	-1.6	30.4
"	28°30'	2.21					3.2	-3.2	28.8
"	56°10'	2.53					4.6	-4.6	27.4

Page 50 Transit Hub #12 Obs. C. Clark Line Hub #12
 Date 11-30-45 Rec. W. H. Ke

OBJECT <i>H. I. 931.97</i>	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
<i>GE</i>	<i>50°20'</i>	<i>3.06</i>					<i>38</i>	<i>-3.8</i>	<i>28.2</i>
"	<i>63°50'</i>	<i>3.27</i>					<i>22</i>	<i>-2.2</i>	<i>29.8</i> ✓
"	<i>57°35'</i>	<i>3.65</i>					<i>1.4</i>	<i>-1.4</i>	<i>30.6</i> ✓
"	<i>48°10'</i>	<i>4.25</i>		<i>+</i>	<i>1°23'</i>	<i>+10.5</i>	<i>5.0</i>	<i>+5.5</i>	<i>37.5</i> ✓
"	<i>40°00'</i>	<i>4.95</i>		<i>+</i>	<i>1°28'</i>	<i>+12.7</i>	<i>5.0</i>	<i>+7.7</i>	<i>39.7</i> ✓
"	<i>41°20'</i>	<i>3.78</i>					<i>2.5</i>	<i>-2.5</i>	<i>29.5</i> ✓
"	<i>35°20'</i>	<i>4.53</i>					<i>0.0</i>	<i>0.0</i>	<i>32.0</i> ✓
"	<i>31°00'</i>	<i>3.25</i>					<i>2.6</i>	<i>-2.6</i>	<i>29.4</i> ✓
"	<i>24°50'</i>	<i>4.00</i>					<i>0.8</i>	<i>-0.8</i>	<i>31.2</i> ✓
"	<i>14°50'</i>	<i>2.86</i>					<i>2.7</i>	<i>-2.7</i>	<i>29.3</i> ✓
"	<i>16°20'</i>	<i>3.75</i>					<i>2.0</i>	<i>-2.0</i>	<i>30.0</i> ✓
"	<i>8°20'</i>	<i>2.75</i>					<i>0.6</i>	<i>-0.6</i>	<i>31.4</i> ✓
"	<i>4°40'</i>	<i>3.55</i>					<i>3.1</i>	<i>-3.1</i>	<i>28.9</i> ✓
"	<i>3°10'</i>	<i>2.72</i>					<i>4.3</i>	<i>-4.3</i>	<i>27.7</i> ✓
"	<i>2°40'</i>	<i>3.53</i>					<i>3.9</i>	<i>-3.9</i>	<i>28.1</i> ✓
<i>★ Walnut</i>	<i>358°44'</i>	<i>2.70</i>					<i>2.2</i>	<i>-2.2</i>	<i>29.8</i> ✓
<i>★ "</i>	<i>359°06'</i>	<i>3.50</i>					<i>1.5</i>	<i>-1.5</i>	<i>30.5</i> ✓

Page 51 Transit 87847 Obs. Clark Line Walnut to 300' East
 Date 11/30/45 Rec. Wilke North to Stn 36

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
<u>H. I. 931.97</u>									
G. E.	353°20'	2.72					3.3	-3.3	28.7
"	355°40'	3.55					2.8	-2.8	29.2
"	351°40'	2.72		+	0°57'	+4.5	2.0	+2.5	34.5
"	353°40'	3.55		+	0°47'	+4.9	5.0	-0.1	31.9
"	338°00'	2.95		+	1°03'	+5.4	2.0	+3.4	35.4
"	345°20'	3.55		+	1°00'	+6.2	2.0	+4.2	36.2
"	321°50'	3.65		+	1°05'	+6.9	2.0	+4.9	36.9
"	332°00'	3.90		+	1°13'	+8.3	2.0	+6.3	38.3
S. E. Coy Found. New Bldg.	352°43'	3.86							
G. E.	356°45'	4.62					1.8	-1.8	30.2
± Walnut	359°00'	4.62					0.8	-0.8	31.2
G. E.	357°48'	5.55					1.0	-1.0	31.0
± Walnut	359°25'	5.55					0.1	-0.1	31.9
G. E.	2°20'	4.60					4.0	-4.0	28.0
"	2°00'	5.59					3.5	-3.5	28.5
"	5°50'	4.65		+	0°40'	+5.4	5.0	+0.4	32.4
"	5°50'	5.60		+	0°15'	+2.4	5.0	-2.6	29.4

Page 52 Transit Clark Obs. Hub #12 & 13 Line
 Date 11-30-45 Rec. W. L. R.

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
<u>G. E.</u>	<u>13°10'</u>	<u>4.95</u>		<u>+</u>	<u>0°40'</u>	<u>5.8</u>	<u>5.0</u>	<u>+0.8</u>
"	<u>14°40'</u>	<u>5.70</u>		<u>+</u>	<u>0°16'</u>	<u>+2.7</u>	<u>5.0</u>	<u>-2.3</u>
"	<u>25°00'</u>	<u>5.30</u>		<u>+</u>	<u>0°30'</u>	<u>+4.6</u>	<u>5.0</u>	<u>-0.4</u>
"	<u>21°00'</u>	<u>5.90</u>		<u>+</u>	<u>0°28'</u>	<u>+4.8</u>	<u>5.0</u>	<u>-0.2</u>
"	<u>29°40'</u>	<u>5.65</u>		<u>+</u>	<u>0°53'</u>	<u>+9.0</u>	<u>5.0</u>	<u>+4.0</u>
"	<u>26°10'</u>	<u>6.20</u>		<u>+</u>	<u>1°00'</u>	<u>+10.8</u>	<u>5.0</u>	<u>+5.8</u>
"	<u>20°00'</u>	<u>6.95</u>		<u>+</u>	<u>1°06'</u>	<u>+13.4</u>	<u>5.0</u>	<u>+8.4</u>
"	<u>16°00'</u>	<u>6.95</u>		<u>+</u>	<u>0°33'</u>	<u>+6.7</u>	<u>5.0</u>	<u>+1.7</u>
"	<u>13°00'</u>	<u>6.80</u>		<u>+</u>	<u>0°38'</u>	<u>+7.5</u>	<u>10.0</u>	<u>-2.5</u>
"	<u>3°20'</u>	<u>6.65</u>					<u>3.2</u>	<u>-3.2</u>
"	<u>1°50'</u>	<u>6.65</u>					<u>3.8</u>	<u>-3.8</u>

H.I. 938.04

AT □ #13

H.I. = 5.40

To □ #12

179°50' 6.67

11.45 -11.45 926.62 ✓ 926.59

To □ #14

0°00' 5.40

+ 0°57' +8.9 5.0 +3.9 941.99 ✓ 941.94

930.54

932.64?

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Date 11-30- Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
G. Elev.	274°	22				6.3	-6.3	31.7
N. E. Cor. Bldg.	265° 54'	46				2.8	-2.8	35.2
G. Elev.	346°	102				5.9	-5.9	32.1
W. Walnut	357° 20'	100				5.1	-5.1	32.9
"	357° 10'	127				4.4	-4.4	33.6
G. Elev.	11° 10'	103				8.7	-8.7	29.3
"	357° 20'	1.79				5.3	-5.3	32.7
"	37° 40'	1.42				8.9	-8.9	29.1
"	10° 20'	1.83				8.3	-8.3	29.7
"	48° 50'	1.84				3.8	-3.8	34.2
"	26° 30'	1.97				7.5	-7.5	30.5
"	59°	2.40		+	4° 11'	+17.9	+12.9	50.9
"	35° 40'	2.37		+	1° 25'	+5.9	+0.9	38.9
"	41° 47'	2.62		+	3° 30'	+16.0	+11.0	49.0
"	62° 55'	2.95		+	4° 41'	+24.0	+22.0	60.0
"	45° 25'	2.82		+	4° 22'	+21.4	+16.4	54.4
"	51° 40'	3.20		+	4° 38'	+25.8	+20.8	58.8

Page 54 Transit. Obs. Wilke Line Hub #13
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
G Elev.	43° 40'	3.95		+ 4° 11'	+28.8	5.0	+23.8	61.8
" "	35° 56'	3.55		+ 4° 05'	25.3	5.0	+20.3	58.3
" "	35° —	4.55		+ 3° 31'	+27.8	5.0	+22.8	60.8
" "	33° 41'	3.40		+ 3° 12'	+29.0	5.0	+24.0	62.0
" "	29° 40'	4.20		+ 3° 15'	+23.8	5.0	+18.8	56.8
" "	26° —	4.00		+ 2° 43'	+19.0	5.0	+14.0	52.0
" "	25° 20'	3.00		+ 1° 41'	+8.8	5.0	+3.8	41.8
" "	19° 40'	3.77		+ 1° 16'	+8.3	5.0	+3.3	41.3
" "	15° 30'	2.73				2.2	-2.2	35.8
" "	12° 10'	3.55				1.0	-1.0	37.0
" "	5° 18'	2.55				6.0	-6.0	32.0
" "	3° 28'	3.47				4.0	-4.0	34.0
W Walnut	359° 35'	2.53				3.3	-3.3	34.7
" "	359° 35'	3.45				1.6	-1.6	36.4
G Elev	354° 56'	2.54				4.3	-4.3	33.7
" "	356° 10'	3.48				2.6	-2.6	35.4
" "	356° 40'	4.12				1.7	-1.7	36.3

Page 55 Transit Wilke Obs. Hub #13 & 14 Line
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+	No. of Int. Down- or Angle	Rod Equiv.			
H.I 938.04									
Walt	0° 00'	5.15					0.1	-0.1	37.9
G. Elev.	355° 40'	4.80					3.8	-3.8	34.2
"	2° 55'	4.20					3.8	-3.8	34.2
Walt	0° 00'	4.90		+ 0° 16'	+2.3		0.0	+2.3	40.3
G. Elev.	11° 50'	4.44		+ 0° 36'	+4.7		6.0	-1.3	36.7
"	3° 30'	5.00		+ 0° 42'	+6.1		10.0	-3.9	34.1
H.I 947.34									
At # 14			H. 1	5.35					941.99
To # 13	180° 00'	5.40		- 1° 02'	-9.7		5.0	-14.7	932.64
To # 15	9° 13'	3.42		+ 1° 02'	+6.2		5.0	+1.2	948.46
G. F	127° 20'	1.88					0.4	-0.4	46.9
"	120° 00'	2.35		+ 2° 40'	+10.9		2.0	+8.9	56.2
"	115° 00'	2.85		+ 3° 15'	+16.2		2.0	+14.2	61.5
"	115° 20'	0.72					11.6	-11.6	35.7
"	97° 25'	2.75		+ 3° 32'	+16.9		2.0	+14.9	62.2
"	108° 40'	1.30					7.1	-7.1	40.2

Page 56 Transit 87847 Obs. Clark Line Hub #14
 Date 11/30/45 Rec. Wilke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
H.I 947.34								
G. E	97°45'	2.05		+	2°25'	+8.6	3.0	+5.6 52.9
"	99°20'	1.69					2.0	-2.0 45.3
"	84°45'	3.07		+	3°30'	+18.7	2.0	+16.7 64.0
"	84°45'	2.68		+	3°04'	+14.4	2.0	+12.4 59.7
± Co Rd B 20' Top	90°00'	3.17		+	0°52'	+5.2	0.0	+5.0 52.3
G. E	84°20'	2.35		+	1°57'	+7.9	2.0	+5.9 53.2
G. E	93°35'	3.15		+	1°12'	+6.6	2.0	+4.6 51.9
"	93°00'	3.20		+	1°12'	+6.7	2.0	+4.7 52.0
"	83°30'	2.00		+	0°35'	+2.0	4.0	-2.0 45.3
"	95°20'	2.02		+	0°37'	+2.2	2.0	+0.2 47.5
± Co Rd B	90°30'	1.02		+	0°15'	+0.9	0.0	+0.9 48.2
G. E	76°00'	1.40					12.8	-12.8 34.5
"	57°40'	1.59		-	1°49'	-5.0	16.0	-15.0 32.3
"	104°30'	0.25					4.2	-4.2 43.1
± Co Rd B	88°10'	0.53					4.0	-4.0 43.3
G. E	71°00'	0.65					5.0	-5.0 42.3
"	65°45'	2.03					13.6	-13.6 33.7

Page 57 Transit 87847 Obs. Clark Line. Hub #14
Date 11/30/45 Rec. Wilke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
H.I. 947.34									
2 Co Rd B	270°40'	0.57					5.9	-5.9	41.4
G.E.	40°10'	2.39		+	1°03'	+4.4	5.0	-0.6	46.7
"	73°25'	3.13		+	3°28'	+19.0	5.0	+14.0	61.3
2 5TH #36 Comm. 30' Top	317°30'	0.77					4.9	-4.9	42.4
G.E.	57°25'	3.35		+	2°56'	+17.1	5.0	+12.1	59.4
"	55°00'	3.13		+	1°55'	+10.3	5.0	+5.3	52.6
"	51°20'	2.90					3.3	-3.3	44.0
"	355°30'	0.46					6.0	-6.0	41.3
"	47°00'	2.68					9.3	-9.3	38.0
"	26°40'	0.42		-	3°26'	-4.3	10.0	-14.3	33.0
"	36°00'	2.25		-	1°03'	-4.1	10.0	-14.1	33.2
"	351°20'	0.95		-	2°13'	-3.7	10.0	-13.7	33.6
"	27°20'	2.80		+	1°24'	+6.8	5.0	+1.8	49.1
"	329°25'	0.92					4.5	-4.5	42.8
"	35°40'	2.95		+	1°37'	+8.4	3.0	+5.4	52.7
"	48°00'	3.55		+	2°42'	+16.7	5.0	+11.7	59.0
"	315°10'	2.30					2.0	-2.0	45.3

Page 58 Transit Clark Obs. Hub #14
 Date 11/30/45 Rec. Wilke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
<u>H. 1.947.34</u>								
<u>2 36 Conn 30' Top in Fall</u>	<u>319°05'</u>	<u>2.29</u>				<u>1.6</u>	<u>-1.6</u>	<u>45.7</u>
<u>G. E</u>	<u>323°30'</u>	<u>3.27</u>				<u>1.5</u>	<u>-1.5</u>	<u>45.8</u>
<u>"</u>	<u>40°30'</u>	<u>4.42</u>		<u>+</u>	<u>2°42'</u>	<u>+20.8</u>	<u>5.0</u>	<u>+15.8</u>
<u>"</u>	<u>37°00'</u>	<u>4.25</u>		<u>+</u>	<u>2°21'</u>	<u>+17.4</u>	<u>5.0</u>	<u>+12.4</u>
<u>"</u>	<u>26°40'</u>	<u>3.70</u>		<u>+</u>	<u>1°36'</u>	<u>+10.3</u>	<u>5.0</u>	<u>+5.3</u>
<u>"</u>	<u>19°00'</u>	<u>3.35</u>		<u>+</u>	<u>1°48'</u>	<u>+10.5</u>	<u>5.0</u>	<u>+5.5</u>
<u>"</u>	<u>8°00'</u>	<u>3.32</u>		<u>+</u>	<u>0°36'</u>	<u>+3.5</u>	<u>3.0</u>	<u>+0.5</u>
<u>"</u>	<u>328°15'</u>	<u>2.25</u>				<u>8.2</u>	<u>-8.2</u>	<u>39.1</u>
<u>"</u>	<u>7°40'</u>	<u>2.70</u>				<u>4.8</u>	<u>-4.8</u>	<u>42.5</u>
<u>"</u>	<u>340°50'</u>	<u>2.23</u>				<u>8.1</u>	<u>-8.1</u>	<u>39.2</u>
<u>"</u>	<u>18°00'</u>	<u>2.70</u>				<u>2.8</u>	<u>-2.8</u>	<u>44.5</u>
<u>"</u>	<u>21°20'</u>	<u>2.27</u>				<u>12.3</u>	<u>-12.3</u>	<u>35.0</u>
<u>"</u>	<u>350°00'</u>	<u>2.23</u>				<u>8.7</u>	<u>-8.7</u>	<u>38.6</u>
<u>"</u>	<u>8°00'</u>	<u>2.17</u>				<u>11.0</u>	<u>-11.0</u>	<u>36.3</u>
<u>"</u>	<u>4°50'</u>	<u>1.54</u>		<u>-</u>	<u>0°42'</u>	<u>-1.9</u>	<u>13.0</u>	<u>14.9</u>
<u>"</u>	<u>13°10'</u>	<u>1.47</u>		<u>-</u>	<u>1°02'</u>	<u>-2.6</u>	<u>13.0</u>	<u>-15.6</u>
<u>2 36 Conn 30' Top</u>	<u>318°40'</u>	<u>3.07</u>				<u>0.10</u>	<u>-0.10</u>	<u>47.2</u>

Page 59 Transit Clark Obs. Hub 14815 Line
 Date 11/30/45 Rec. Wilke

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.		
H.I. 947.34								
G.F.	323°10'	3.10				8.3	-0.3	47.0
"	326°00	3.08				4.0	-4.0	43.3
"	335°30'	3.25				5.2	-5.2	42.1
"	336°20'	2.70				3.2	-3.2	44.1
"	343°20'	2.73				3.3	-3.3	44.0
"	348°25"	3.12				3.4	-3.4	43.9
"	343°15'	3.95				6.2	-6.2	41.1
£ S.H. # 3L 4' top	338°00'	4.28				6.9	-6.9	40.4
"	328°00'	4.05				3.9	-3.9	43.4
G.F.	328°00	3.60				3.7	-3.7	43.6
AT Δ #15	H.I. 5.25							H.I. 953.71
to Δ 14	189°13'	3.42				11.7	-11.7	948.46
£ S.H. # 36	301°10'	2.06				10.0	-15.1	38.6
" " "	325°	2.20				2.0	-17.7	36.0
" " "	343°30'	2.74				7.0	-19.9	33.8
" " "	353°50'	3.47				5.0	-21.5	32.2

Page 60 Transit W. V. Ke Obs. Hub #15 Line Hub #15
 Date Nov 30 -45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE			READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle	Rod Equiv.			
H.I 953.71									
G. Elev	301° 26'	168		-1° 36'	-4.7	10.0	-14.7	39.0	
" "	294° 14'	94		-2° 08'	-3.4	10.0	-13.4	40.3	
" "	328° 50'	32				7.5	-7.5	46.2	
" "	265° 26'	73				11.0	-11.0	42.7	
" "	337° 20'	86				10.7	-10.7	43.0	
" "	233° 30'	96				12.9	-12.9	40.8	
" "	332° 20'	130		-5° 08'	-11.6	6.0	-17.6	36.1	
" "	233° 30'	33				7.3	-7.3	46.4	
" "	338° 35'	180		-5° 18'	-16.6	2.0	-18.6	35.1	
" "	58° 47'	146		+1° 09'	+2.9	2.0	+0.9	54.6	
" "	40° 10'	147				3.3	-3.3	50.4	
" "	346° 30'	226		-3° —	-11.8	10.0	-21.8	31.9	
" "	37° 55'	188				7.6	-7.6	46.1	
" "	351° 20'	155		-2° 26'	-6.6	10.0	-16.6	37.1	
" "	13° 25'	240		-2° 17'	-9.6	5.0	-14.6	39.1	
" "	0° 40'	83				8.5	-8.5	45.2	
" "	7° 52'	250		-3° 05'	-13.5	10.0	-23.5	30.2	

Page 61 Transit Wilke Obs. HUB #15 Line Hub #15
 Date Nov 30 - 45 Rec. Clark

OBJECT	AZIMUTH	STADIA	DIS- TANCE	INTERVALS OR VER. ANGLE		READ. ON ROD	DIFF. OF ELEV.	ELEVATION ABOVE DATUM
				Up+ Down-	No. of Int. or Angle			
<u>H.I 953.71</u>								
G, Elev.	358°40'	305		-2°56'	-15.6	10.0	-25.6	28.1
" "	356°50'	320		-2°47'	-15.5	5.0	-20.5	33.2
" "	70°30'	247		+2°35'	+11.1	5.0	+6.1	59.8
<u>St.H. # 36</u>	2°15'	455		-2°14'	-17.7	5.0	-22.7	31.0
G Elev.	48°50'	250		+1°16'	+5.5	5.0	+0.5	54.2
" "	6°—	410		-2°55'	-20.9	5.0	-25.9	27.8
" "	36°15'	268				7.3	-7.3	46.4
" "	13°20'	355		-2°10'	-13.4	10.0	-23.4	30.3
" "	25°20'	300				14.5	-14.5	39.2
" "	19°40'	320		-2°17'	-12.7	10.0	-22.7	31.0
" "	32°20'	340		-0°07'	-0.7	10.0	-10.7	43.0
" "	28°33'	350		-1°15'	-7.6	13.0	-20.6	33.1
" "	49°50'	308		+0°56'	+5.0	5.0	0	53.7
" "	28°30'	447		0°56'	+7.3?	10.0	+2.7	56.4?
" "	74°30'	600		+2°53'	+30.2	5.0	+25.2	78.9
" "	19°50'	530		-1°26'	-13.9	10.0	-23.9	29.8
" "	16°20'	633		-1°33'	-17.1	10.0	-27.1	26.6

